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July 2001
Volume 72
No. 7
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The National Locksmith®

ALOA 2001 Baltimore, Maryland

*Bringing to town the
best in the industry!*



On The Cover...



Just a few of the new products being presented at this years ALOA show is: Ilco O29A Dual Function Key Machine, Jet Groovy Keys; HPC Car Opening Authority on CD and CCL Sesamee Long Shackle Padlocks.

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COMMENTARY



It's ALOA Time!

Once again it's time for locksmiths from everywhere to gather together at the ALOA show, this year, in Baltimore, MD. My first ALOA was in 1964, I believe it was, in San Francisco, CA. I was six years old and my father took the family with him.

Why does ALOA serve as a centerpiece for the locksmith community? Perhaps it is for two reasons. First, we *are* a community, a group of people facing common challenges and problems. And second, because we are a *small* community, composed of a relatively limited number of professionals, scattered all over the place.

Therefore, the opportunity to gather, learn and commune together is a rare and valuable one. This show offers us the opportunity to see new products that might make our lives easier and to socialize together with others who understand us.

The National Locksmith, this year, will be there to meet and greet you, our readers, and will also be showing our new books, products and software, all of which are designed to facilitate your job. Among other items on display will be InstaCode 2001, Dispatcher, updated TNL magazines on CD, and tons of safe books.

Jake Jakubuowski will be on hand to sign copies of his new book, *The Fifteen Minute Safe Opening*. And Dave McOmie's extensive line of books will be there on both paper and CD ROM.

Speaking of Dave McOmie, he's planned two hands on seminars called Penetration Parties. The first is on September 22 and 23 in Warren, MI. And the second is on October 6 and 7 in the Bronx.

Not only can you attend one of these seminars, be aware that Dave can teach your

association or group in a hands on setting. All you need is at least ten locked up safes and a group of people anxious to open them.

Here's an interesting tidbit regarding Cross Country Motor Club. The Newswire Service is reporting a new feature Cross Country is putting forward for its members. A phone call will automatically be placed to the member to confirm the dispatch of locksmith, tow truck, or other service. This is intended to address the stranded motorist's fear of abandonment. Hopefully, more motor clubs will worry about the *locksmiths'* fear of abandonment.

Congratulations to Susi Burdick, co-owner of Burdick's Security, a locksmith and security-system firm in Washington state. Susi was recently quoted in the *Seattle Times* due to her position as head of her local Chamber of Commerce's Scholarship committee. It's nice to see her mentioned, and as a locksmith too, which helps promote locksmiths as individuals engaged in the community.



Have questions? Want free technical help?
Free Locksmith Forums!
www.TheNationalLocksmith.com

Marc Goldberg
Publisher

MANGO'S message



A couple of months back I received a call from Chris Kenning, a reporter for *The Courier-Journal*, a newspaper based in Louisville, Kentucky. He was calling me about the licensing and bonding requirements for locksmiths, as well as how a customer can choose, or find, a skilled, honest, reliable and reputable service provider.

The first two questions were easy to answer. The last one wasn't.

As the conversation continued, I learned why Kenning was gathering information about the licensing, bonding and integrity concerns. Kenning was doing a story about a Kentucky based locksmith, along with his wife and an alleged accomplice, who were arrested for soda vending machine vandalism.

According to Kentucky law enforcement officials, Daniel Kiser and his wife Kathleen Kiser, were arrested in Jefferson County on charges that they used stolen and duplicate keys to remove cash from soda vending machines in two states. Both parties face 76 counts of theft for incidents in Kentucky and Indiana, and are also suspected of using stolen keys to take jewelry from display cases at several regional Wal-Mart stores.

Fred P. Mitchell, the alleged third party accomplice to the Kisers, was arrested a month prior to the Kisers in Fayette County on the same charges.

Louisville police said that although the individuals charged operated mainly in Kentucky and Indiana, only a handful of the soda vending machine thefts happened in Louisville. Some of the suspected target locations that were vandalized were Red Roof Inns, the Louisville Zoo and Ramada Inns.

The vending machine heists and perpetrators were caught several times on video surveillance opening the machines and then taking the money from the cash dispensers. According to accounts, Kathleen Kiser would often carry an umbrella to conceal the illicit activity, which

was allegedly witnessed on the video surveillance tapes.

One vending machine representative said that after the cash collectors reported shortages, surveillance cameras were installed at various locations. When the Kisers were finally captured in action, the tapes were turned over to law enforcement authorities and charges pressed.

LOCKSMITHS GONE BAD!

Louisville Police Detective, Sgt. Rick Eastham, said that the trio allegedly stole keys from soda delivery trucks to access the vending machines. *"In some cases, they would make imprints of the keys in putty and then make new ones,"* Eastham

commented. Over a 1-1/2 year period, the losses amounted to an estimated \$115,000, most of which is missing.

According to the police report, soda vending machines were not the only items this trio targeted. They are also suspected of stealing jewelry from Wal-Mart stores using either stolen or duplicate keys to access the jewelry cases. Some of the suspected stolen jewelry was later recovered, but Wal-Mart has yet to make a claim on it.



The Kisers reportedly operated *Kiser's Locksmith Service*, a non-listed, non-bonded business from the basement of their home. After serving a search warrant at the Kiser's home, police seized \$5,000 in cash, rolls of quarters, a key machine, more than 1,000 key blanks and the jewelry suspected to have been stolen from Wal-Mart.

Since the Kisers had the ability to duplicate keys, authorities have asked that customers who have used Kiser's Locksmith Service for work done on their home, businesses or car, to call the police and have a reputable locksmith change all their locks immediately. I was quite impressed that "locksmiths" in specific were mentioned by the press to provide the rekey service.

In a news conference Police Captain Steve Thompson

Continued on page 8

Continued from page 6

said, "We don't know how many other victims there may be out there, that's what worries us. We have no evidence of stolen property beyond the soda vending machines and Wal-Mart stores, but they certainly had the knowledge and ability to do so."

I must state that at this time the charges to the Kisers and Mitchell are alleged. As of this writing neither parties were convicted of the crimes, only charged for them. The Kisers are currently free on bond, however, Daniel Kiser is no stranger to law enforcement officials. He has a previous arrest record, conviction, and has served jail time.

Police Detective, Sgt. Rick Eastham seems to think that if Kentucky doesn't send Daniel Kiser to its penal institution, especially with his prior conviction, Indiana officials are sure to.

In the police report and news report, the Kisers were referred to as locksmiths, apparently because business cards were found with Kiser's Locksmith Service on them. I called a few locksmiths in the Louisville area to see if anyone knew, was acquainted with, or had seen the Kisers at any time. They had not. I then spoke with Bob Cook, a locksmith since he was 17 and owner of *Cook's Locksmith Service* in Louisville, which is one of the oldest locksmith establishments in the area of 36-years. Bob is also a long-standing member of ALOA and past president of *Central States Locksmith Association*. He also did not know of the Kisers and said no one he had talked to about the situation had heard of them or would consider them locksmiths. Cook said, "I know most of the locksmiths in the Louisville area, it's not that big of a city, but the Kisers are not one of them."

Were the Kisers locksmiths in the true sense of the word? No! I later found out that Daniel Kiser was actually a Diesel Mechanic. Does this negate any harm that may have been done to the image of this trade by the Kisers being described as locksmiths? Probably not.

As long as the police, newspaper and television news stations report this story, and in the same breath associate the Kisers as locksmiths, the indelible image impressed upon the general public's mind is instilled.

I am often amazed that we do not hear more stories of locksmiths gone bad. In all the years I have been affiliated with the locksmith trade, I have heard of very few incidents where a fellow locksmith decided to operate on the wrong

side of the law. When you consider the intimate knowledge of bypass tools and procedures, skill, and the tempting situations one can find themselves in, (like opening a huge double-door Mosler safe stuffed full of literally thousands of Olympic Gold Coins, Krugersands and solid Gold bars, which I did) it's a wonder more of us don't dip our hands in the (they won't miss just one, will they?) cookie jar.

I believe it's a true testament and credit to the integrity of locksmiths in general. We are instilled with an enormous amount of trust, which most of us take for granted and ultimately honor.

Just as some law enforcement agents, doctors, lawyers, politicians, clergymen and layman, to name just a few, fall victim to the underbelly of society, we always hate to lose members of the sacred brotherhood of locksmithing to the criminal elements.

For those who are determined to remain an independent, unlicensed, unregulated craftsman, a story such as this does not help your cause. For those who have been passionate about pursuing state or federal licensing and regulations for locksmiths, a story such as this certainly can't help but support your position.

The way I see it is, you can't license, regulate or mandate honor, integrity or character. All you can do is punish the lack thereof. You can license, regulate and mandate the level of knowledge, skill and ability one has, but to many, those are not the only, or necessarily the most important attributes of a locksmith.

It's too bad that the individuals involved in this story elected to ply their skills for unscrupulous activities. It saddens us all, because when one violates the honor and integrity of the trade, it casts a dark shadow on locksmithing and tarnishes us all, just by association. What's even sadder is the fact that the Kisers have four children and Kathleen Kiser is currently pregnant with their fifth, all of whom may be left to Foster Care.

Oh well, I guess Daniel Kiser, Kathleen Kiser and Fred P. Mitchell, just may enter the next phase of their locksmith education and progress from vending machine locks and jewelry case locks to detention locks!


Greg Mango

Greg Mango, Editor

J U L Y 2 0 0 1

Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

Going Beyond the Call of Duty

I just thought I would share two very nice articles that were in our local paper. Gene Davidheiser, president of Davidheiser's Locksmith, was called for an emergency lockout service. When Gene arrived at the location, they explained to him what they were doing and how important it was to get into the vehicle. Gene opened the vehicle and the article explains the rest of the story...

I'm Kyle D. Koffel and for about the last five years, the Harleysville Jaycees have donated and delivered 30 Thanksgiving meals each year to those less fortunate in the area. The names and phone numbers of the families are given to Jaycees by the Indian Valley Opportunity Center. We call the families a week before and verify their addresses and inform them that we will be delivering the meals the night before Thanksgiving.

We never had an unexpected dilemma that we couldn't overcome

on our own until this year, when minutes before the scheduled deliveries, I inadvertently locked my keys in my car, along with all of the names and addresses of the families. With the Indian Valley Opportunity Center closed for the night, the only way to get the addresses and names was to get into the car without a key. We called a local locksmith, Eugene Davidheiser of Telford. He came right out and unlocked my car so that the Jaycees could split up and get on our scheduled routes and deliver the meals for the holiday.

Mr. Davidheiser explained that because the Jaycees were doing a community service for Thanksgiving, he refused to be paid and told us that this was simply his community service so that we could continue on our mission. Too many times good deeds go unnoticed. We wanted to make sure that this one did not. In the spirit of Thanksgiving, and on the behalf of the Harleysville Jaycees and the 30 families who received a meal for the holiday, I would like to thank Mr. Davidheiser for his generous service and dedication to his community.

Gene Davidheiser
Pennsylvania

Many locksmiths around the country give freely of their time and expertise in times of crisis and in most cases, never receive recognition. So, as a way of saying "Thanks" to Don Smith, BWD has sent a selection of its Premium Pack locks. In light of all the locksmith efforts that go unrecognized, BWD wishes to extend this same offer of appreciation to locksmiths from around the US and Canada. Simply send in your (or a friend's) story of "Going Beyond the Call of Duty." On a monthly basis, BWD

The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Attn: Editor

E-MAIL YOUR VIEWS!

NATLLOCK@aol.com

Remember to include your
first and last name.

will award a set of Premium Pack locks (approximately \$100.00 in value) to one qualifying locksmith. So, hurry and send your story and if possible, a photograph of the helping hand hero to:

Going Beyond the Call of Duty
c/o The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Fax: (630) 837-2044
E-mail: natllock@aol.com

Intellectual Property

In the May issue, Greg Mango's column is about Piven and Borgenicht's "The Worst-Case Scenario Survival Handbook." I haven't looked at the book itself, but Greg leaves us with the impression that most of the article is a direct quote from that book, together with artwork and text coloration. It's possible that this is just a not-very-funny parody - an April Fool's joke published a month late. If so, you can skip the remainder of this note. The lesson to take away is that you need to make your humor columns more obvious. Or, if you have in fact done

Continued on page 12

Continued from page 10

the right thing here, the lesson is that you need to clearly say "quoted with permission" or "paraphrased" so folks like me don't panic.

If it really is an extended and unapproved quote from a published work (I hate to bring this up and I am not a Lawyer) but it looks like you're treading real roughshod on copyright here. In addition to the legal question, I think we need to take a moment to consider the ethics of the situation.

We're locksmiths. Our business is protecting other people's property. As we move into the 21st century, that must include intellectual property. The American population already has a shaky grasp on this concept, which is why software theft has become a huge problem. As security professionals, we owe it to them to help set a proper example. As publishers you should be setting such an example for your readers. In fact it's in your own best interest to do so.

I presume you'd be extremely upset if I photocopied a significant portion of the Ledger and passed it out to a few thousand people subscribing to my own newsletter without obtaining your permission (and probably paying a royalty for the reprint), or if I burned copies of one of your software products. But if we flip that around, we owe the authors and publishers of that book the same respect, whether we approve of what they're writing or not. Two wrongs do not make a right, and stealing copyrighted material - which really is what you're doing if you publish a nontrivial reprint without permission - is not an appropriate response. Just as their publishing one of your articles as a chapter in their next book would not be appropriate.

Information per se, can't be copyrighted, so a paraphrase would have been OK - though an extensive paraphrase starts to become an issue again, and artwork raises its own issues. Short quotes (a few sentences or a paragraph) in a book review are usually considered to be fair use. But this example goes well beyond the usually accepted size thereof.

C'mon, folks. I know you know better.

(For the record, I have absolutely

no connection with either of the authors of that book, or its publisher. But I'm the son of writers, have done some technical and creative writing myself, and my "day job" is in the software industry. I've been waging an ongoing battle against the "if you didn't want me to copy it you shouldn't have let me near it" mindset for years. I really don't want to have to start fighting it again in yet another field, but I also don't want to see you lay yourselves wide open for a lawsuit - especially over such a BAD book!)

Joe Kesselman
E-mail

Editors Note: *The book in question is comprised of 176 pages. I reprinted a tiny fraction of that material. My intent was not to steal the material and ignore a copyright, or infringe on intellectual property, but to comment on it. As always, the idea is to spotlight a topic that you may not be aware of. I do get your point. However, I believe that rather than sue us, the publisher may want to pay us for the free publicity.*

By the way, you have my permission to "photocopy a significant portion of the Ledger" and pass it out for free to as many people as you like.

Greg Mango
The National Locksmith

Credit Due

A couple of months ago, I received an e-mail from a mutual friend saying that Dale Libby, an author for TNL, had heard of a form that I use for insuring payment when NSPs fail to pay on time. He asked if I would contact Mr. Libby about it, I did.

Mr. Libby, in a return e-mail, asked if I would send him a copy of the form and also asked permission to use it in an upcoming series of articles. ("I WANT TO GET PAID", page 86 of the May 2001 issue of The National Locksmith.) Since this form was submitted to the ClearStar Security Network and freely available to it's members in the "Resources Area" and certainly not copyrighted, I told him he could download it from there.

He said he was not a CSN member so I agreed to send it to him, provided that he acknowledged, in the article, where and whom it came from. He agreed.

Now to the meat of the matter! I

find it insulting that Mr. Libby considers me a "friend" since he has never met me or even talked to me on the phone prior to his request. A "friend" remembers your last name. A "friend" certainly will remember your first name.

I am also disappointed that he failed to mention in the article that this form was freely available to anyone that had access to the ClearStar site. This would certainly have benefited the readers of the article. He might also have acknowledged my effort in creating and submitting it to ClearStar, for the benefit of its members, and also acknowledged the value of being a member of ClearStar.

Respectfully,
Ken Doyle
San Francisco, CA
Via E-Mail

Publisher's Note: *Ken, on behalf of The National Locksmith, I apologize for having gotten your name wrong in the attribution. In your letter, you also suggested that Mr. Libby donate to the ClearStar Relief fund, and I will simply note that as an organization, we have done that in the past. I think Mr. Libby had intentions other than reviewing web sites when writing the article in question. However, we agree with you that ClearStar has a great deal to offer. So how about a free plug? We suggest locksmiths visit Clearstar.com and see that much help is freely available. Stop by TheNationalLocksmith.com as well. Both sites are excellent, and have unique value.*

Marc Goldberg

Correction:

In the May, Magna Vault article by Hayman Safe Company, we inadvertently printed incorrect contact information. The corrected info is: Hayman Safe company, 1291 North S.R. 426, Oviedo, FL 32765. Phone: 800-444-5434; Fax: (407) 365-8958; E-mail: Info@Haymansafe.com; Web: www.haymansafe.com

TNL

HPC Interactive Car Opening Methods

HPC's approach to auto entry is based on mastering the basic skills of the trade, just as you would with lock picking, manipulation and impressioning. With a firm foundation in the "13 Methods of Car Opening" you won't need huge manuals to reference, or car-by-car photos or videos to review, to accomplish your goals.

In keeping with this philosophy, HPC has just introduced two new products to its car opening line. The Car Opening Authority™ CE puts the power of the COA-CD in your hand. With the Interactive Car Opening Authority™ CE and a Hewlett Packard's Hand-Held PC, you can access HPC's complete Vehicle Opening Reference, Index and guide based on the 13 methods of car opening. (See photograph 1.) You will have a database of knowledge that will guide you through any car opening.

This compact unit enables you to carry your entire shop with you everywhere. Look up a car opening method, select a car opening tool, take notes, check your calendar, record a message, write a letter, check your to do list, send e-mail and surf the web on the job site, all while sitting in your van.

The second of HPC's newly released products, "How to Master Car Opening for the Security Specialist" CD is a ground breaking interactive guide that takes you step-by-step at your own pace through the 13 methods of car opening. (See photograph 2.) Once you have mastered these methods, you will be able to open virtually every vehicle on the road. The multimedia demonstrations will de-mystify the car opening process and help you build the professional skills that will enable you to approach any car opening situation with confidence.

This is one of the latest editions to HPC's Live Action Learning Software Series. This Series is a collection of interactive guides on CD-ROM for your PC or Macintosh Computers. (See photograph 3.) These multimedia guides are loaded with informative audio, video, animation, photography, and illustrations that clearly and concisely take you through the essentials of the security industry.

The following is an example of the Under & Over Method of car opening. All text and screen shots are excerpted from HPC's "How to Master Car Opening for the Security Specialist."



1. The Interactive Car Opening Authority™ CE and a Hewlett Packard's Hand-Held PC.

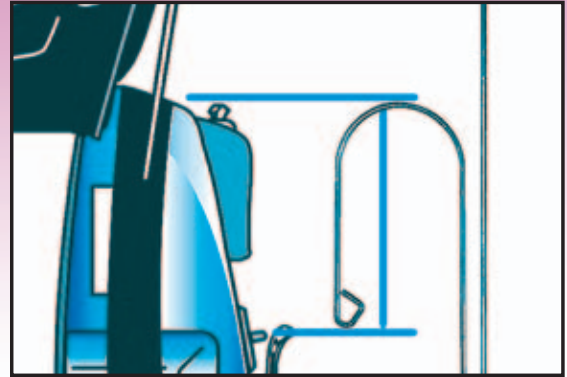
2. The Live Action How to Master Car Opening Learning Series on CD-ROM.



3. How to Master car Opening works with both PC and Mac computers.

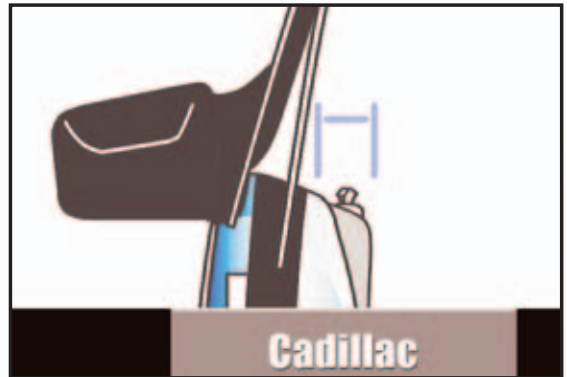
– Under Over Method –

In using the Under & Over Method, (*see figure A*) several things must be taken into account when choosing an Under & Over tool. (*See figure B.*) The most obvious factor to account for is the distance from the top of the door ledge to the lock button or power door lock control. (*See figure C.*) Some vehicles such as the Chevrolet Beretta and Chevrolet S10 pickup truck, have their buttons very close to the top of the door ledge. The 2-door Buick Regal and Oldsmobile Cutlass have their buttons located a little farther down from the ledge, while the Chevrolet Astro Van is located very far down from the ledge. This translates into the length of the top of the upper loop to the working tip of the tool.



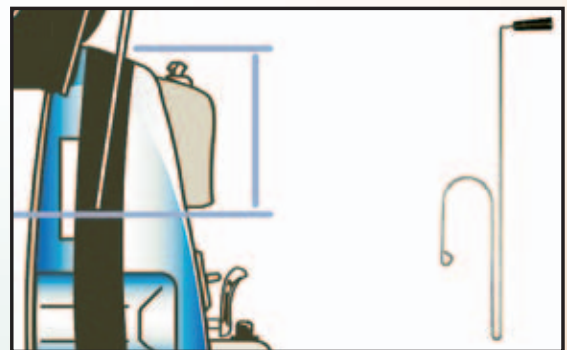
C. A critical measurement is from the top of the upper loop to the working tip of the tool.

The second factor to be considered is the thickness of the door ledge. (*See figure D.*) Cadillac has a relatively thin door while the Chevrolet Beretta's door is thick. Reaching for a power door lock control on an armrest may require an especially wide tool. This translates into the distance between the working tip and the opposing vertical stretch of the tool.

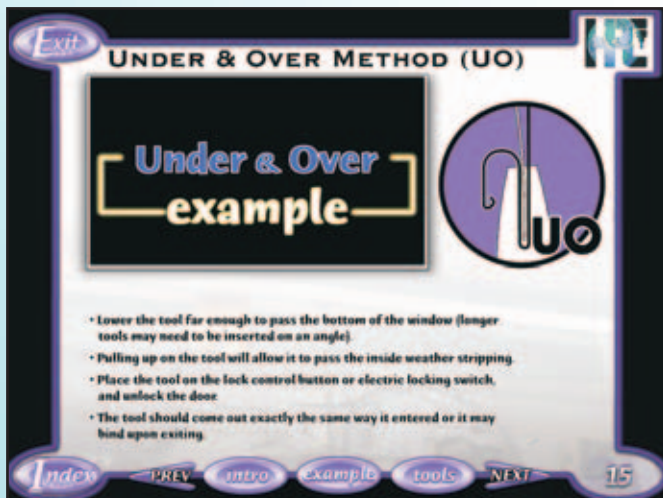


D. You must also consider the thickness of the door ledge.

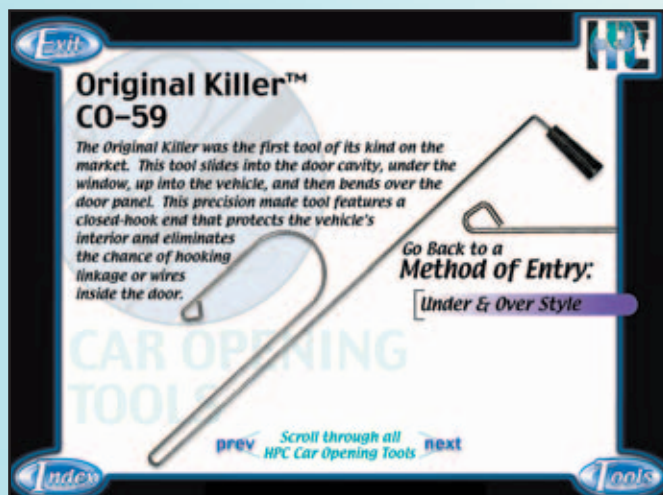
The last consideration is the distance that the window glass extends beneath the ledge. (*See figure E.*) The longer the glass extends and the lower the inside lock button or power door control button is mounted, the longer the bottom loop must be on the tool. For most applications the tool can be inserted straight down into the vehicle's door cavity, however, if difficulty is encountered, try tilting the handle forward, toward the front of the car and insert the tool at the closest point to the front of the vehicle. (*See photograph 4.*)



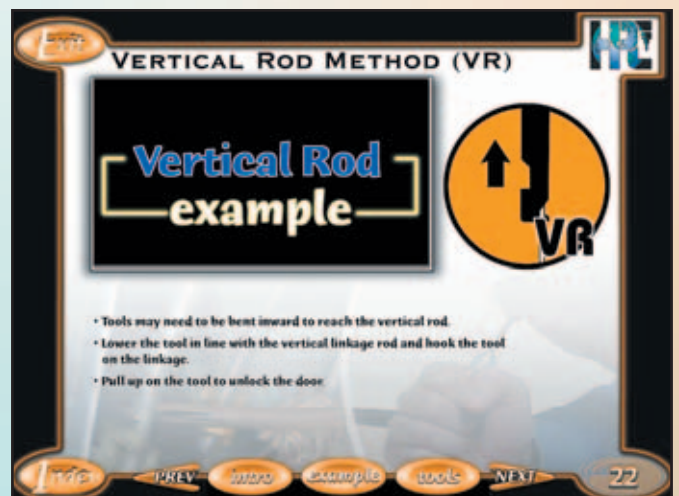
E. The longer the glass extends and the lower the inside lock button the longer the bottom loop must be on the tool.



A. The Under & Over Method example.



B. Choosing the correct tool is critical.



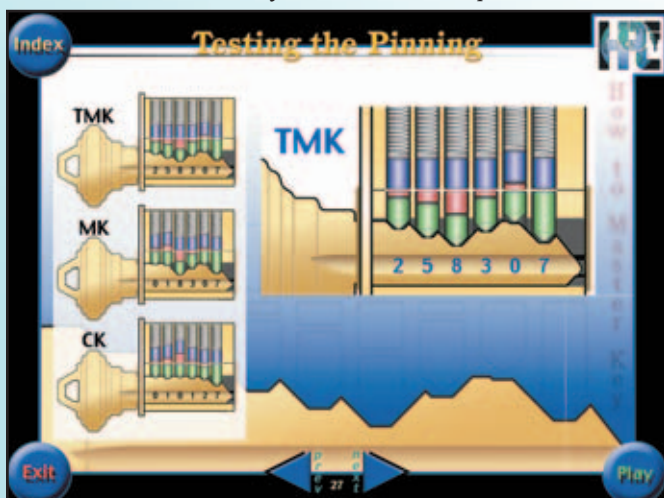
F. The Vertical Rod Method example.



G. The Bell Crank Method example.



H. The Lazy Pawl Method example.



I. The interactive How to Master Key method.

Under & Over Procedure:

1. Insert two Ultimate Auto Wedges (AW-34) approximately 8 to 10 inches (20 - 25 cm) apart, between the glass and weather-stripping.
2. Lower the tool into the opening far enough to pass the bottom of the window. Longer tools may need to be inserted at an angle.
3. Turn the tool inward and remove the wedges to take pressure off the window. Pull up on the tool to enter the inside of vehicle. Pulling up on the tool will allow it to pass the inside weather-stripping.
4. After the tool has passed the weather-stripping, lower the tool down in line with the inside lock control.
5. Place the tip of the tool on the lock control button or electric locking switch, and unlock the door.

Removing an Under & Over Tool:

Removing the tool requires some skill. We recommend the following method:

1. Insert wedges on the inside of door between the window and the weather-stripping to create an opening for the tool to be removed.
2. Lower the tool down inside the door.
3. Remove the wedge(s) from inside the door and insert them on the outside of the door between the window and the weather-stripping to create an opening for the tool to pass through.
4. Turn the handle of the tool slightly, maneuvering it under the window. Pull the tool up, removing it.

NOTE: The tool should come out exactly the same way it entered. Specifically, if it entered with the hook toward the front of vehicle, then remove it in same way or the tool may bind upon exiting.

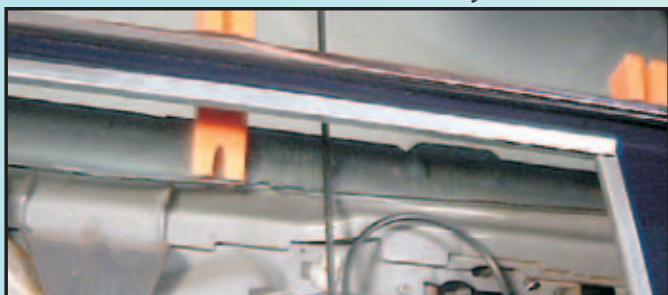
Using HPC's new Live Action Learning CD "How to Master Car Opening for the Security Specialist" you can experience and learn the Over-Under method, and the other 12 methods of car opening. This CD will help you master the core knowledge that any locksmith needs to confidently approach any car opening situation.

This is just a small example of what is available on HPC's new interactive car opening CD and Live Action Learning method. Other examples given is a Vertical Rod Method (*see figure F*), showing the Clutch Tool in action (*see photograph 5*), the Bell Crank Method (*see figure G*), Lazy Pawl Method, (*see figure H*) and you can even get an interactive How to Master Key method. (*See figure I*.)

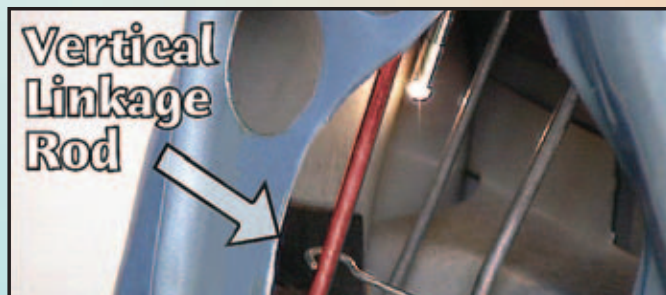
For more information on HPC products call: 800-323-3295,

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HPC@HPCWORLD.COM; Web: www.hpcworld.com. Circle number 205 on Rapid Reply. **TNL**



4. Lower the tool to pass the bottom of the window.



5. The clutch Tool in action.

New Specifications for Master Lock's ProSeries®

– by Billy B. Edwards Jr. –

Master Lock Co. has been hard at work on its ProSeries® product line, making it even better than it has been. With the WeatherTough and shrouded laminated locks and the solid body Brass, Aluminum and Steel bodies, the ProSeries® is the most complete line of padlocks available dedicated to the locksmith.

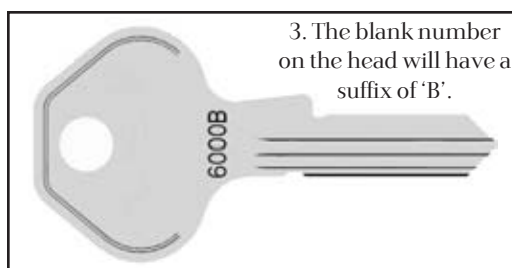
The only problem experienced by many locksmiths with the ProSeries® is cutting keys by code. Locksmith key machines use the back of the blade as the reference point for cutting a key. It doesn't matter if the key being cut is a duplicate or being cut by code, the back of the blade is the locksmith reference. Master Lock, on the other hand, has always used a register groove as the reference when bitting keys in the factory.



Cut	Root Depth
0	.2845"
1	.269"
2	.253.5"
3	.238"
4	.2225"
5	.207"
6	.1915"
7	.176"

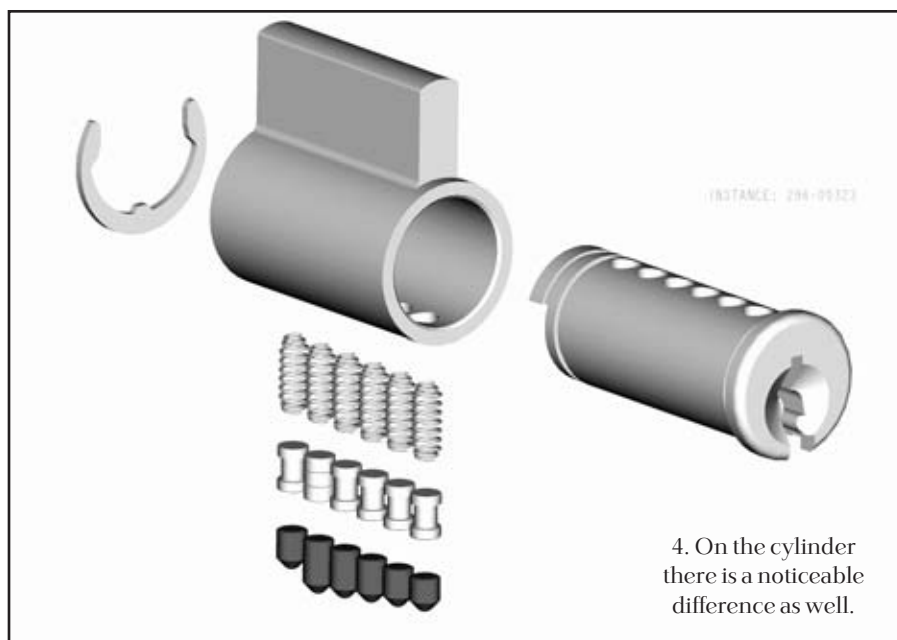
2. There are new depth specifications for the new key.

The use of a register groove for measuring depths of cut means that unless you have an optical comparitor, you can't really tell if you are correct or not. Master has solved that problem for you with a new key for a newly designed cylinder. Via some precision engineering, Master has designed the new key with a rounded



back that will be a direct replacement for the current ProSeries® keys (*see illustration 1.*) This new key will be positioned in the lock by the back of the blade making contact with the shell. The new key is also designed to ensure that it will never be positioned in the lock by the register groove. To be implemented as a running change in the product line, you should start to see the new keys in products around August/September, 2001.

Yes, there are new depth specifications for the new key. (*See illustration 2.*) The tolerance allowed with the new depths is $\pm .001$ ". Besides the better accuracy in cutting code



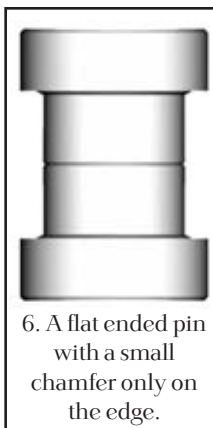
keys, there is one effect to watch out for when duplicating keys. By rounding the back of the blade Master is effectively adding material to the key. This added material means that you should use a rounded back key when duplicating one with a round back. If you don't, the depths on the duplicate will be around .012" shallower than they should be. If your original key doesn't have a rounded back and you duplicate it onto a round back key, the duplicate will be about the same, .012" too deep and won't operate the lock.

Older non-round backed keys will operate a new cylinder design and the new round back keys will operate in the older cylinder design, the only incompatibility will be at the duplicator. Existing key codes will not be affected by this change. Existing pinning kits may be used to combine cylinders with the new keys. Older keys will operate new cylinders and the new keys will operate the old cylinders. Naturally, cut spacing does not change. Master Lock will be eliminating the non-round back key as supplies are used up, however, Ilco and others do have a non-round back blank available.

Spotting the new keys has been made an easy process. There are three positive indicators. First, the blank number stamped on the head will have a suffix of 'B'. (See illustration 3.) Second, there is a notch in the back of the blade that hasn't been there before. The notch is a stopping point for the rounding process. Third, the round back of the blade itself. On the cylinder there is a noticeable difference as well. The cylinder will have an 'E' clip on the back to retain the plug in the shell



5. The dome-like chamfer on older pins.



6. A flat ended pin with a small chamfer only on the edge.

versus the crimping of the shell that has been used in the past. There are other changes to the cylinder that you can't see until you take it apart. The fit of the shell to the plug has been tightened as well as the tolerance range for the shell is more demanding. (See illustration 4.)

Once inside the cylinder you will find that spool pins are standard now in all pin chambers except the first. The shape of the pin has changed as well. The dome-like chamfer on older pins (see illustration 5) has been traded in for a flat-ended pin with a small chamfer only on the edge. (See illustration 6.) There is also a new traditional top pin with the same new end. Our number 291 pin kit will be upgraded to include the new top pins and the E-clips.

Three new parts will be needed for your service kits, they are:

0296-0324lip (package of 12 ea.)

0296-0322 Spool Top Pin
(package of 200 ea.)

0296-0323 Regular Top Pin
(package of 200 ea.)

Don't worry about a price increase for this improved cylinder and key design, none is required.

For more information on Master Lock products circle number 201. **TNL**



How To Pick Tubular Locks

This software shows you every step of tubular lock picking in clear and simple detail.



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by Richard Allen Dickey



SecuraKey RK-100M proximity reader



1. The SecuraKey
Proximity Access
Control Unit Model
RK-100M.

A. A mounting
diagram.

SecuraKey has been around for over 29 years. They provide products that meet the needs of today's access control users. State-of-the-art technology, modern design techniques, the newest software tools, and strict quality control help to provide increased capability and lower product costs.

SecuraKey's manufacturing plant and general offices are located in a large, modern facility in Chatsworth, California. SecuraKey's full range of in-house capabilities include:

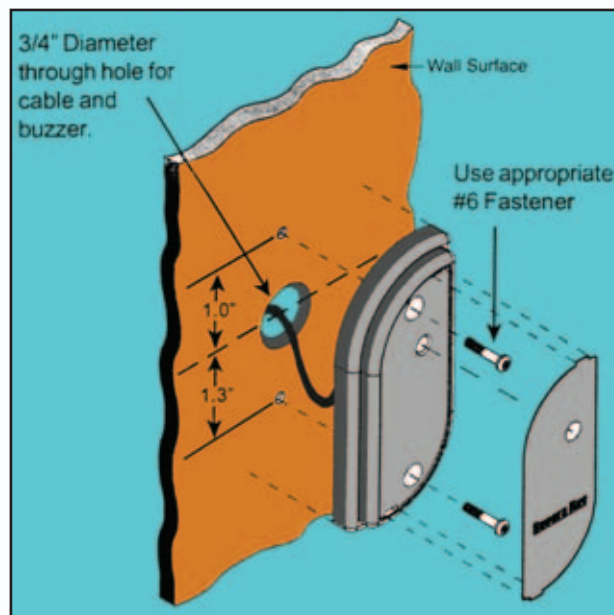
- ✓ Card manufacturing and packaging
- ✓ Graphics
- ✓ Printing
- ✓ Electronic design
- ✓ Mechanical design
- ✓ Assembly
- ✓ Firmware development
- ✓ Software development.

SecuraKey's products include features like:

- ✓ Surge protection on inputs and outputs
- ✓ Industrial grade components to ensure operation from -40° to 158°F
- ✓ Coated boards to fight corrosion
- ✓ Sturdy Lexan® housings
- ✓ Neoprene weather gaskets

I thought it would be fun to go over one of their products a little differently this time. I still intend to cover the usual "how to" information, but I want to go a little deeper than installation and programming. Have you ever wondered how a proximity reader works? How about those little things they call a "MOV" that hooks across the power wires? Well, sit back and get ready to understand the secrets of the RK-100M Radio Key (proximity reader) from SecuraKey.

The RK-100M Radio Key is a small, self-contained proximity reader that provides entry for up to 100 individual users. (See *photograph 1.*) It can be connected to an electrified door strike, an electromagnetic lock or be used as a gate controller. If you get creative with the 1 Amp





2. The RK-100M with the cover removed.



3. An assortment of plastic plugs.



4. These plugs fit great into any metal hole and will protect your wires.

Single Pole Single Throw (SPST) relay, you can think of a lot of ways to use this little reader.

The reader is attached with two #6 screws to just about any surface. (See photograph 2.) A 3/4" access hole for the wiring is recommended, however the wire is only 1/4" in diameter. (See illustration A.) The reason for the extra room is to allow for the little speaker that sticks out the back of the reader.

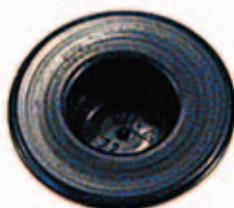
When the installation is in metal, there is a trick I like to use on anything with wire sticking out the back. I put them through a plastic plug. These plugs are cheap and come in a lot of different sizes. (See photograph 3.) Press the plug into the hole (see photograph 4) and use a screwdriver to punch a hole in the plastic plug. (See photograph 5.) The wires will easily slide through the hole in the plug.

The obvious advantage is the physical protection of the wires from damage caused by the edges of the metal hole.

Another advantage is that the plastic of the plug will try to return to its regular form and act as a seal around the wires. This is something a grommet can not do.

When the reader is mounted, replacing the plastic cover will finish your outside work.

The inside work is very easy. Although there are a total of eight wires, only four of them are needed for a standard installation. (See photograph 6.) The red and black are for powering the reader. The red is the positive connection and black is the negative connection. The reader will work with anything from 5 to 14 VDC.



5. Punch a hole in the middle of the plug and pass the cable through.

Wafer Lock Reading



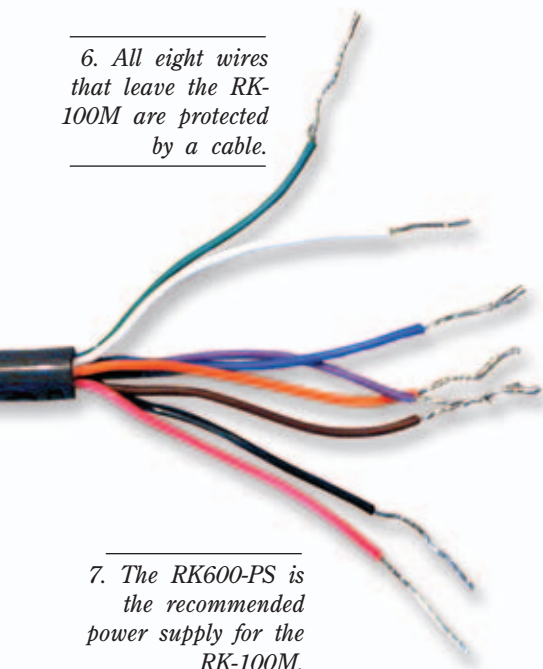
Easy to learn.
No Codes needed.

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#WLR - 1

6. All eight wires that leave the RK-100M are protected by a cable.



7. The RK600-PS is the recommended power supply for the RK-100M.



The recommended power supply is the RK600-PS. This unit is your typical plug in power supply "wall wart" that provides 9VDC (See photograph 7.)

The blue and violet wires are connected to the relay. These are the wires you connect to the device you are trying to operate. If you are connecting the reader to an electrified strike or a magnetic lock, there are also a couple of other things connected at this point. (See illustration B.) One would be the power supply for the strike or mag lock. The other is that MOV you heard about. We will get deeper into this later.

The orange and brown wires are used to connect to a remote access switch. You know, the "hey, buzz me in" switch. This connection does not have to be used, but it shows the flexibility of this little reader.

The remaining green and white wires are only used if the reader is connected to a multi door system. The Wiegand output of the RK-100M will send the transponder key information to a control system, even if the key is not programmed into the reader. This allows for future expansion.

The next part of the system is the RKKT-01 proximity key tag called the Radio Key®. (See photograph 8.) These little things transmit a unique, encrypted code to the reader. How do they do that? That's some of the fun stuff we will go into a little later.

Programming is the only step

left at this point. Unlike other systems that use a computer or a keypad, the KR-100M uses a pack of cards. These special cards that work on the same principal as the key tags. (See photograph 9.)

The first thing that should be done is to change the password. The default password is 12345. The following steps will give you an idea of how this is done.

1. Present (wave) the numbered cards that represent the password (1, 2, 3, 4, 5) in front of the reader, one at a time and then present the "Enter" card. The reader will beep each time a card is presented.
2. Now present the "Thru" card followed by the new five-digit password, one card at a time.
3. One more time. Present the "Thru" card followed by the new five-digit password, one card at a time.
4. Present the "Enter" card.

If you do it right you will get a green light and a beep.

All of the other programming steps are just as easy. You can:

- ✓ Add and remove transponders. (keys)
- ✓ Change the timing for the latch timer from 1/4 of a second to 18 hours.
- ✓ Change the mode of operation. (normal, locked, unlocked and toggle)
- ✓ Configure the output relay, etc...

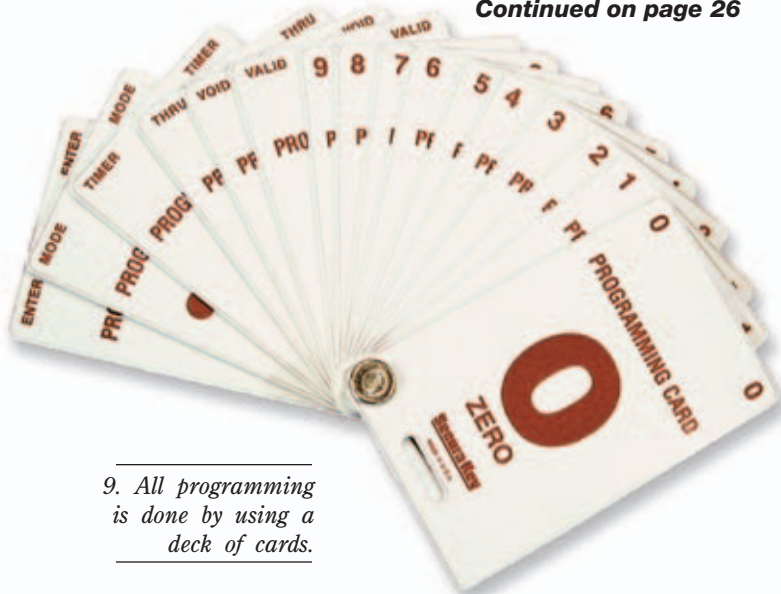
I think you get the idea. This little reader does a lot.

Continued on page 26

8. The transponder key tag is about twice the size of a quarter.



9. All programming is done by using a deck of cards.



Continued from page 24

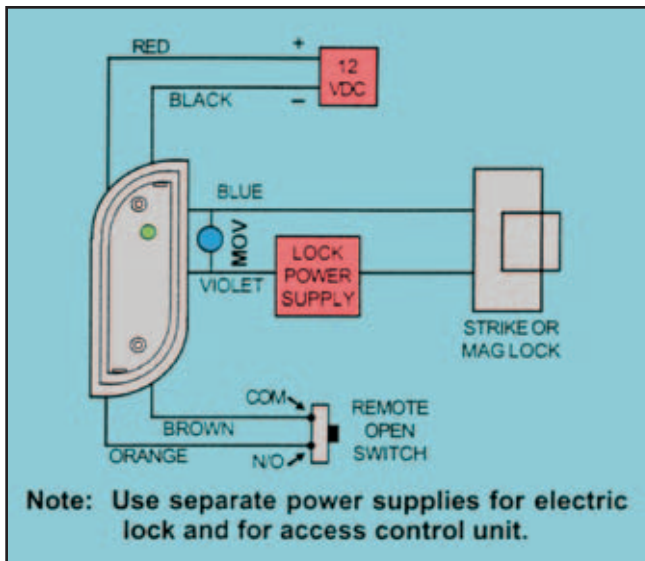
As you would expect, if power is lost, all information about valid users and transponders is maintained by the RK-100M in its non-volatile memory.

Now that the basics have been covered, I want to talk about how a proximity reader works. I also need to mention why it is important to use a MOV in some power circuits.

The proximity reader and transponder key tag work together. The transponder cards and key tags from one company will rarely work with another company's proximity reader. This is a lot different than cards that are swiped through a magnetic card reader. The cards that are swiped have a standard (type II, etc.) magnetic strip that can either be programmed on site, or the system uses existing information on the card. The transponder cards and keys are programmed at the factory. They all have their own unique information in them that is usually encrypted.

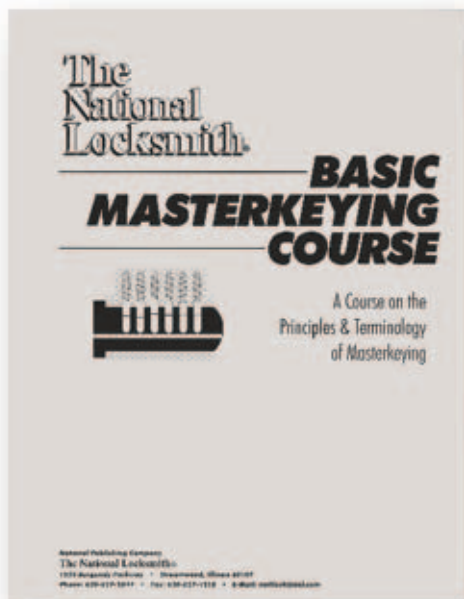
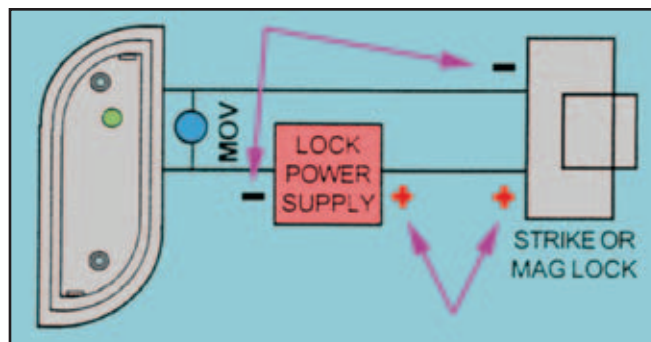
The transponder keys and cards are also called key tags, key fobs, access cards, access things and a few more colorful names I will leave out. There are two types of transponders. There is the active type and the passive type.

The active type has a battery inside and has pretty much been phased out by access entry manufacturers. The main reason is that the active type have a shelf life



B. An electrical diagram for a typical installation.

C. Connections for the additional power supply, MOV and locking device.



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13 Lesson
450 page course

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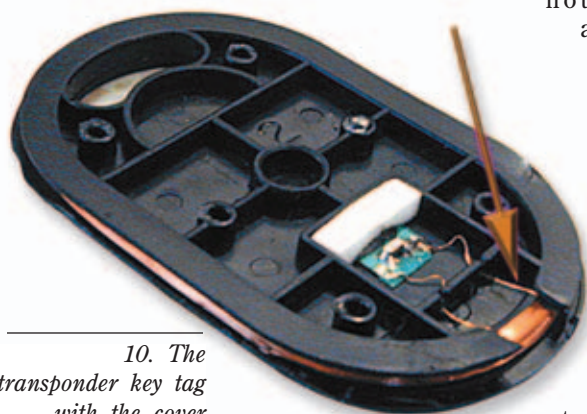
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#MK - 1

because of the battery and they are more expensive.

The passive type is what we are dealing with here. A passive transponder consists of a case, a microchip and a lot of wire. (See *photograph 10.*) How much wire? Well, a wire the size of a hair is wrapped around the inside of this transponder, two hundred and two times. That's a lot of wire. Why so much wire? That's one of the secrets to the passive devices. Let me explain.



10. The transponder key tag with the cover removed.

Inside the proximity reader is another coil of wire like the one inside the transponder. It acts as an antenna. The proximity reader is transmitting a signal at about 125 kHz, through its coil of wire. It does this all the time. We don't really care what that signal is, it is enough to know that this transmitted signal is received by the transponder with its antenna and actually powers the device. What antenna? That long coil of wire that wraps around the inside two hundred and two times. That is why passive transponders do not use batteries. They actually use the power that is received from the proximity reader.

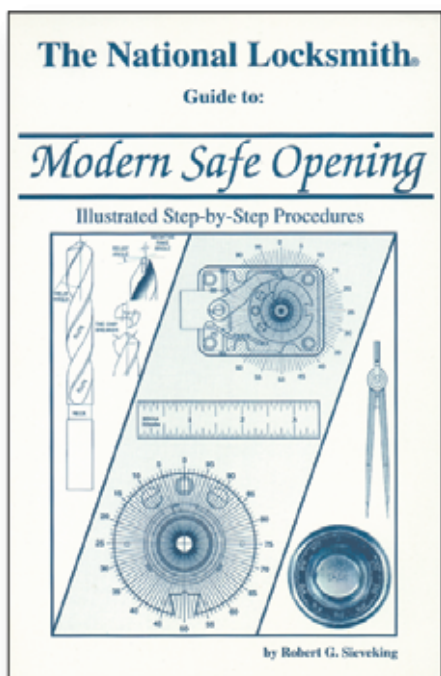
All of this power that is received by the transponder, triggers that little microchip inside. The microchip in turn, transmits its own signal back to the proximity reader. The signal from the transponder is none other than that encrypted code I

mentioned earlier. Because all of the power that is used to make these things happen starts inside the proximity reader, the distance between the proximity reader and transponder has to be no more than six inches.

You might wonder why it will only work up to six inches if they use these things in moving cars and on toll roads. Well, the ones used for toll roads and other similar situations are the active type. They have a battery inside, and that gives them a greater range. Interesting, if I do say so myself.

That covers the "how does it work" part of the explanation. Now for that extra power supply and the MOV.

The extra power supply is to operate the locking device. Although the same power supply could be used for both the locking device and the proximity reader, it is recommended by SecuraKey to use two different power supplies. The reason is to isolate the proximity reader from the problems created by electric strikes and



Modern Safe Opening

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#MSO - 1



11. This is a Metal Oxide Varistor (MOV).

electromagnetic locks. You will get much more reliability from your proximity reader with this practice.

The power supply is connected as shown in illustration C. The positive from the locking device is connected to the positive from the power supply. With the negative connections, we just slip in the contacts from the reader and add a MOV.

Magnetic locks and electric strikes have one thing in common. They both use electricity, run it through a coil of wire and use the resulting electro-

magnetism to achieve a goal.

When you pass an electric current through a coil of wire that is wrapped around an iron core, there is a sort of charging effect that takes place due to an electrical field that is created inside the coil of wire. When power is removed from the circuit, the charging that took place has to go somewhere. Although the charging starts out as only 12 or 24 volts, it can build to 200 volts while the electrical field is collapsing. This higher voltage can jump across the opening in a set of mechanical contacts. This arc will damage the contacts over time.

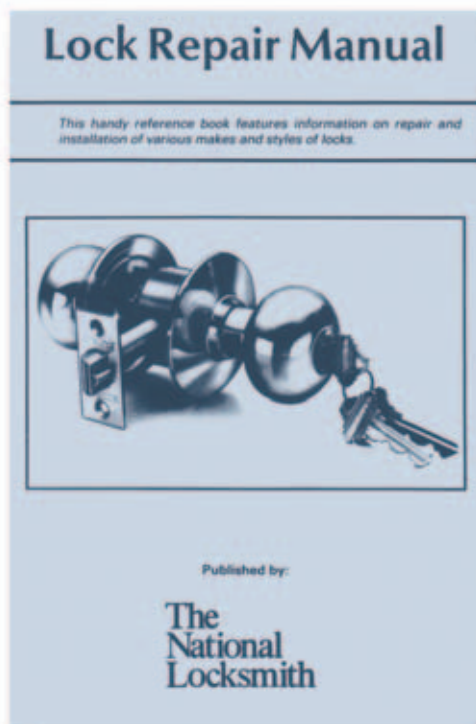
Solid state contacts don't have the problem of arcing, but they have an even bigger problem. Because solid state contacts are made out of electronic components, they are designed to work within a specific voltage range. The higher voltage created by the collapsing electrical field could damage electronic components.

The solution to this problem is the Metal Oxide Varistor, or MOV for short. (See photograph 11.) The MOV is placed in the electrical

circuit along with the power supply that operates your locking device. (See illustration C.) When things are in a normal condition, you would never know that the MOV is there. It just sits and waits until it is needed. When that collapsing electrical field creates a higher voltage than is normal, the MOV creates an escape route for the effects of the electrical field. This saves the contacts of a mechanical relay and the electronic components of a solid state relay.

I hope my description of how these things work and why they are used is helpful. There is a lot more that goes on inside than I have covered here. However, I think I put enough information in this article to allow you to understand why a proximity reader and its keys work, not to mention that mysterious MOV.

You can find more about the SecuraKey RK-100M and its accessories by calling SecuraKey at: 800-891-0020; Fax: (818) 882-7052; Web: www.securakey.com; E-mail: mail@securakey.com. Circle number 204 on Rapid Reply. **TNL**



Lock Repair Manual

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#LRM - 1

Quick Entry

UPDATE

by
Steve
Young



2000-2001 NISSAN SENTRA

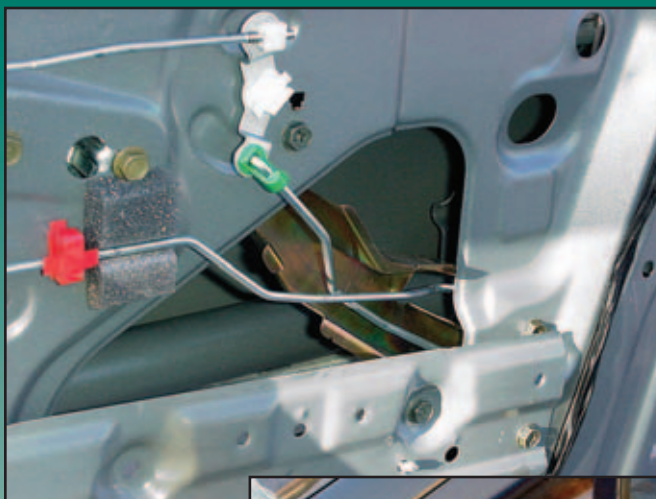
The new Nissan Sentra was introduced very late in the 2000 model year and underwent several significant changes for the 2001 model year. (See photograph 1.) The early models had a linkage system inside the front doors that was relatively unprotected. A highly effective sheet-metal guard was added shortly after the vehicle was introduced, making the front door linkage difficult to attack. (See photograph 2.)

When I discovered this change, I was a little curious because Nissan doesn't usually spend a sizable amount of money on a revision without a very good reason. I soon realized that the true reason for the guard was that the passenger side door lock was being removed on certain models. This is a trend that we've been seeing in new vehicles since the mid-1990s. In 1996, BMW began eliminating the passenger side door locks on their new vehicles. Other European manufacturers such as Opel, Volkswagen and Audi began doing the same. It wasn't long until the US manufacturers joined in, and now the Asian manufacturers are also eliminating the passenger side door lock.

The sales-pitch for this trend is that, as a styling statement, it gives the vehicle "European Flair." In addition, these vehicles are usually equipped with remote keyless entry, so the passenger side lock would rarely be used anyway. Some even believe that if there is no lock on the passenger side door, a thief will have a harder time trying to break into the vehicle through that door. The real reason for leaving out the passenger side door lock, however, is that it saves the manufacturer a buck or two.



1. The 2001 Nissan Sentra GXE.



2. A guard protects the linkages inside the front door.



3. The TT-1027 tool is used.



4. Gently pry the rear end of the weather-stripping.



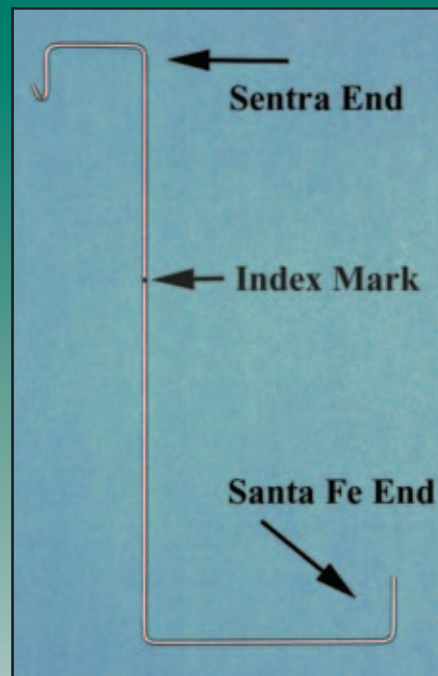
7. The tool hooks onto the upper rod.



5. Tool positioned in door.

Quick Reference Guide

Vehicle: 2000 - 2001 Nissan Sentra	Security System: Optional Transponder Non-Transponder
Direction Of Turn: Driver side - Clockwise, Passenger side (if equipped) - Counter Clockwise	Key Blank: Iico: X237; EZ: DA34; Jet: DA34-NP; Curtis: DA-34
Tool: TT-1027	Transponder
Lock System: Nissan 10-cut	Key Blank: Dealer only at this time.



6. An index mark is used to position the tool properly.

In reality, the absence of a lock often makes that door easier to attack - in some cases much easier. If a vehicle is built with no lock on the passenger side, there are three ways to go about building the door. Proper design would be to use a latch mechanism that is designed specifically for use without a lock, such as those used on the rear doors.

Another way would be to use the standard latch mechanism and add shielding to protect the unused bellcrank that would normally be attached to the lock. The wrong way would be to simply remove the lock and leave the unused latch bellcrank unprotected so that it could be attacked with a Slim-Jim. Unfortunately, the wrong way is also the cheapest way, so some manufacturers naturally choose that method. Nissan would not likely make that choice.

The added shielding in the front doors of the Nissan Sentra protect not only the inside linkages, but also the latches on vehicles that do not have a lock on the passenger side. At this time, the more expensive Sentra GXE models do not have a passenger side door lock, but the lower priced Sentra XE models do have a passenger side door lock. Both models have the improved guards on the front doors, so

the easiest way to unlock the vehicle is through the rear doors using the TT-1027 tool. (See photograph 3.) This tool was also used to unlock the 2001 Hyundai Santa Fe, which was covered in this column in the April, 2001 issue.

To unlock the new Sentra through the rear door, begin by using the point of a wooden wedge to gently pry the weather-stripping on the rear door free of the top edge of the door. (See photograph 4.) Freeing up the weather-stripping is optional, but it will make the job a lot easier. The weather-stripping at the top of the door is secured by a plastic clip located in a position that will interfere with the movement of the tool if the weather-stripping is not released. Releasing the end of the weather-stripping will free up a lot of room and allow easy positioning of the tool. It only takes a moment to pop the weather-stripping free, and once the job is complete, it will snap back into place.

Insert the tool into the door with the tip of the tool aimed toward the front of the vehicle, and lower the tool until the index mark is at least an inch below the top edge of the door. Rotate the tool so that the tip is pointed toward the rear of the vehicle, and then pull up on the tool until the index mark is just visible above the edge of the door. (See photograph 5.) If the

weather-stripping has not been removed, the index mark will be at the top edge of the weather-stripping. At this point, the hooked end of the tool should be even with the inside lock control linkage.

Because only a small length of linkage rod is accessible, proper positioning of the tool is very important. For this reason, the TT-1027 tool has an index mark on the shaft of the tool. (See photograph 6.)

The inside lock control linkage is the upper of two horizontal linkage rods that are located very high in the door. (See photograph 7.)

Rotate the handle of the tool to the rear until you feel the tool contact the linkage; then hook the tool onto the linkage rod by feel. Once the tool is hooked onto the rod, push down and rotate the handle of the tool to the rear. The tool will move the linkage rod forward and unlock the door.

NOTE: If the tool rotates more than 45° without contacting the linkage, it is not in the proper position. Probing up and down with the tool should allow you to locate the linkage rod by feel. Watch the inside lock control rocker for movement as you probe for the linkage. The Nissan Sentra can also be unlocked with the Jiffy-Jak Vehicle Entry System.

TNL



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Mercedes-Benz

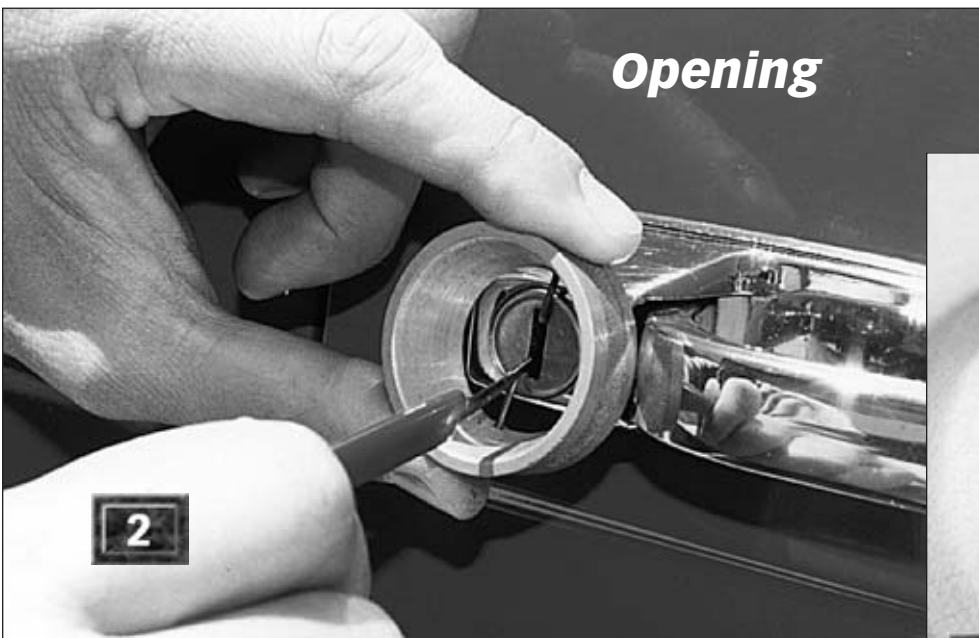
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part 1

by
Michael
Hyde

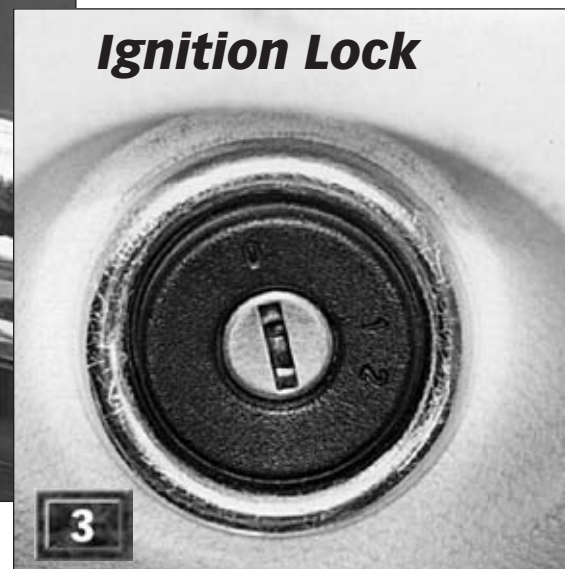


The Mercedes-Benz car line has been the sign of prestige and innovation. In this article we will take a look at the luxury sports car of its time.



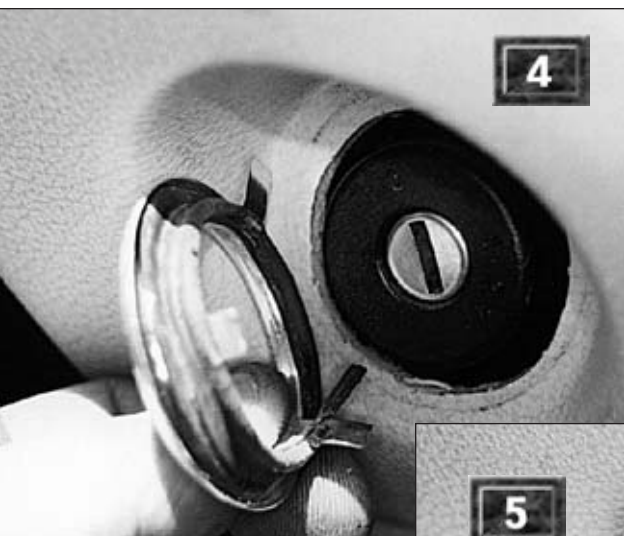
Opening

The weather-stripping used on these cars did not hold up well. Using a wedge on the door may cause the window weather-stripping to disintegrate right before your eyes. Since this is a 1977 model the door locks are usually worn, picking the lock is fairly easy.

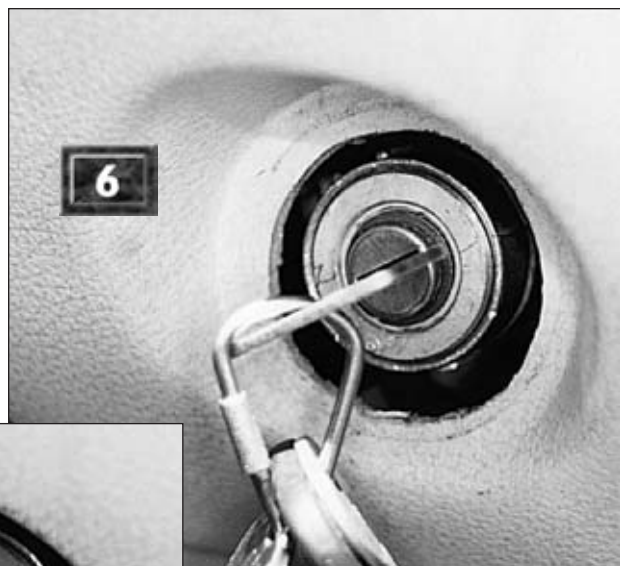


Ignition Lock

The ignition lock on this car does not have a hardened collar as the later model years did.



The black cylinder trim can now be removed. It just unsnaps.



Insert a working key and turn to the first detent. If you do not have a working key, the lock impressions well. This lock uses an active retainer.



To remove the ignition you must first unsnap the plastic trim ring. This trim ring has three bendable legs to it, that if bent back and forth too much they will break off.

2002 AutoSmart™



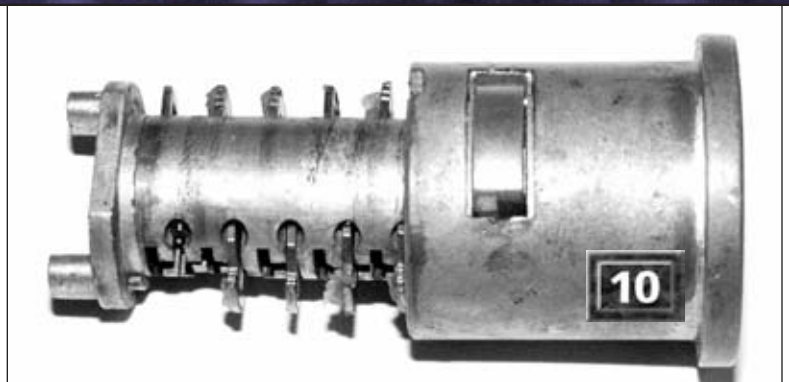
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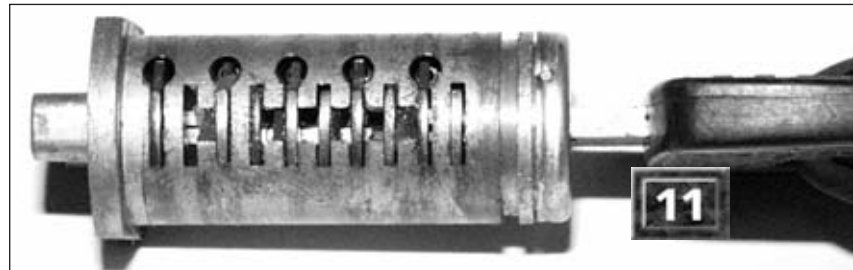
Here is a shot of the positioning of the active retainer access hole. It is at the 2-3 o'clock position. We are using a 90-degree angle probe to show the position.



The cylinder plug will now slide out the rear of the lock housing.



The active retainer on this lock cylinder is in the shape of a wedge.



The cylinder plug should contain all 10 tumblers.



To disassemble the ignition lock cylinder, remove the tru-arc ring on the face of the lock.

You do not need to remove the inside door panel to get the door lock out.



The outside door handle and lock cylinder is all one unit.



Continued from page 38



14

The door lock and handle are held to the door by two #3 Phillips head screws. You must pull back the rubber weather-stripping to see them.



17

If the car was in an accident a repair person might tighten this setscrew thinking it was suppose to be tightened. You would then have to remove the door panel and loosen the setscrew to get the handle off.



15

Once you remove the screws you can slide the handle forward to remove it. If the handle is tough to slide you can tap the handle forward through the side where the Phillips head screws were removed from.



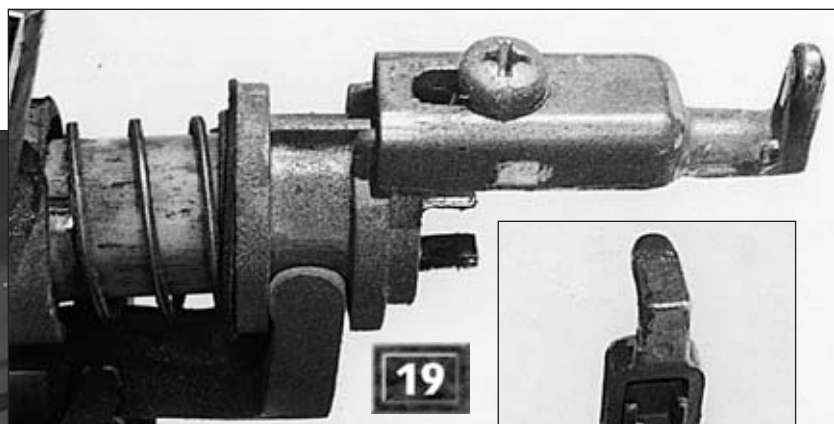
18

A view of the handle/lock assembly removed from the car.



16

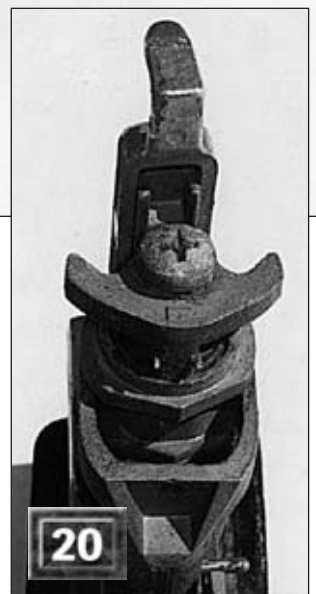
On the forward section of the handle is a setscrew. When this car left the factory this setscrew was tightened to a certain level so it would only be snug against the door's outer skin. That way the handle could be removed easily for servicing if necessary.



19

The tailpiece on this lock is adjustable.

To remove the cylinder plug you will need to remove the Phillips head screw on the wing type tailpiece.



20

Continued from page 40

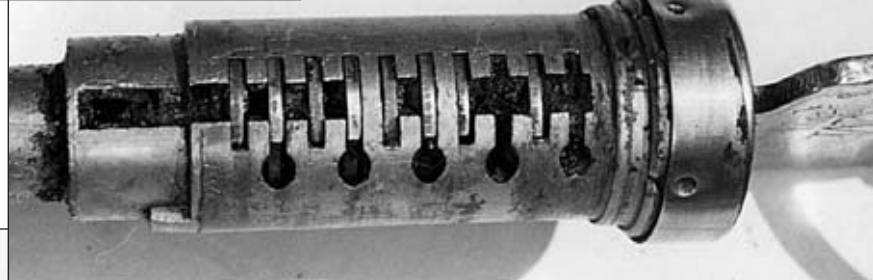


Underneath the tailpiece is the plug spring.

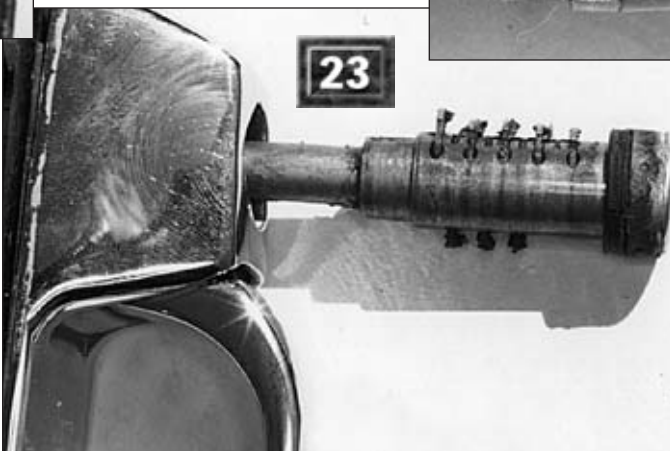
The lock cylinder plug will now slide out the handle.



When taking off the tailpiece, watch out that the spring does not go flying.

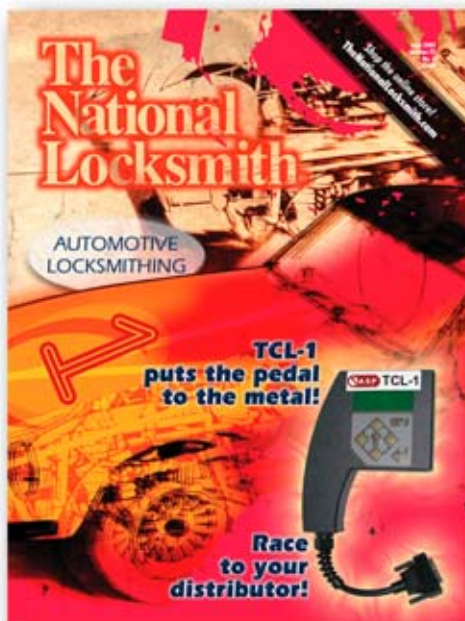


Here is a view of the lock cylinder plug. It is common for Mercedes to leave out tumblers in positions 1 & 3 from the bow.



There is a rubber o-ring that sits on the plug near the bow. This o-ring usually starts to break apart with age.

RL



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ERCOMING

INTERCHANGEABLE CORE

STACLES



Photograph 1, shows an example of a housing and an I-Core, which might be described as Best-style or by the newer term: small format interchangeable core (SFIC). Although there are numerous lock companies that make the small format I-Cores and housings, they mostly all follow the same pinning rules and basic construction as Best. There are other brands and formats of interchangeable core locks, which follow completely different rules for servicing. This article will only deal with those considered to be Best-type or SFIC.

Under normal circumstances, an I-Core is installed or removed by using a control key. The "figure 8" shaped profile of the I-Core fits within the

By Sal Dulcamaro, CML



stops. There is no need to measure the 15-degree movement, as the motion is self-limiting. Turn it as far as it will go, and that should be 15 degrees.

The Control Shear Line

Illustration A, shows some of the significant features of a small format I-Core. It is an approximate view of the I-Core, if the main part of the face had been peeled back. Exposed to view is the control shear line. When the tumblers split at the control shear line, the control sleeve can rotate and draw in the locking lug. If a control key isn't available to remove the core, another way must be found to release the core from the housing.

There are a number of options for removing an I-Core without the control key. Some may be more practical than others, depending on circumstances. If the intention is to

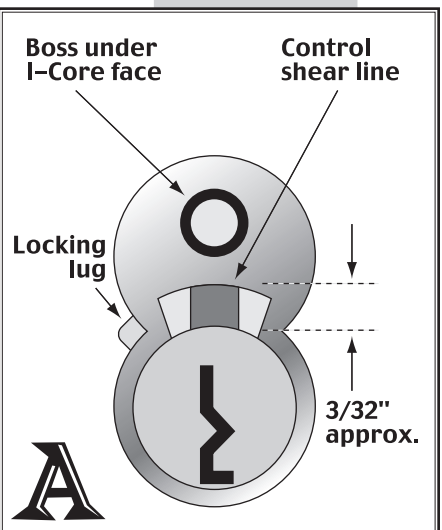
merely remove the core in order to reuse the housing or lock, you will have different options than if you need to salvage the pin configuration of the I-Core. I will demonstrate methods for both circumstances.

Picking to the Control Shear Line

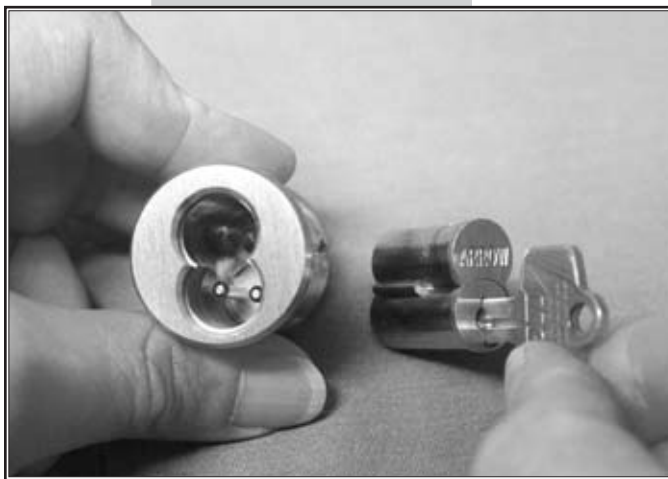
I will not go into the details of lock picking here, but instead will explain some of the things you may have to deal with when picking a small format I-Core. First of all, you will probably

find that most I-Cores of this format will have either six or seven pin chambers. Key cuts and chamber positions are generally referenced tip to bow or back to front. The first cut of the key will be at the tip and last cut closest to the bow of the key. The first pin chamber will be at the back end of the core and the last chamber will be just behind the face of the core.

Depending on your picking skills, you may find picking to be a good or bad option for removing an I-Core. Even if you can pick them, you cannot always predict which shear line you will end up engaging. Because Best-style cores



have two shear lines, using standard picking techniques (with a typical turning tool in the keyway) you could conceivably pick either the control or operating shear lines. It generally seems to be a random chance as to whether you will end up picking the lock open, or pick the lock so that the control sleeve turns and the locking lug retracts. Picking to the operating shear line will do you no great favor if your ultimate intent is to remove the core. A number of techniques have been devised to specifically pick to the control shear line. To actively pick to the control shear line, you will need to



1 An interchangeable core housing and core.

matching shaped cavity of the housing. The locking lug, a protruding element on the left side of the I-Core, retains it inside the housing.

A 15-degree clockwise rotation of the control key will draw in the locking lug so that it blends evenly into the "figure 8" profile of the I-Core. Then it can be inserted into the housing as in *photograph 2*. Removing the I-Core would involve the same basic process. Turn the control key clockwise until it

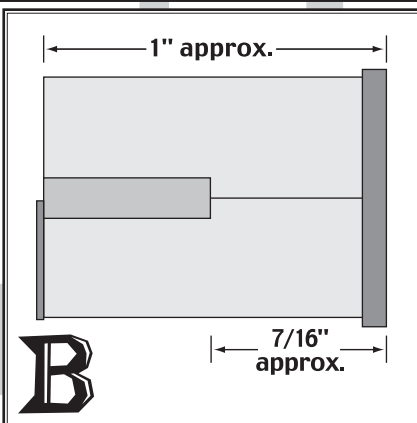


2

The control key will draw in the locking lug.

find some way to apply turning pressure to the control sleeve.

Gerry Finch, who passed away a few years ago, was an expert on both interchangeable cores and master keying. He used to make a special turning tool for picking to the control shear line that slightly resembled a comb. If you are familiar with Best-style cores, you will know that there are small diameter ejector pin holes on the bottom side of the core. These holes are directly in line with the chamber holes and are



“comb” extended just far enough to engage the holes in the control sleeve, but not far enough to engage the holes in the shell. According to the theory, applying turning pressure in this way should bind tumblers only at

used to insert an ejector tool to force the stack of pins out of an I-Core pin chamber. The holes run through both the shell and control sleeve of the core. Gerry’s

the control shear line, rather than the operating shear line.

I never had the opportunity to try this tool, so I’m not sure how difficult or effective it might be to use. Because the tool inserts at the bottom of the keyway, it should be possible to use with most small format I-Cores where the bottom of the keyway is positioned

at 6 o’clock. Keymark cylinders from Medeco have the bottom of the keyway angled slightly to the right (pointing roughly about 5 o’clock), so this tool would not be an option for Keymark I-Cores. Since



3

A 3/16" diameter hole was drilled.

turning tool was designed to engage the holes in the bottom of the keyway. The many protrusions of the

Gerry’s passing, I’m not sure if the tool is still made. I forgot to mention it earlier, but turning clockwise will be the only way to pick to the control shear line. Picking to the operating shear line could conceivably happen in either direction.

There is another way to try and pick to the control shear line, but you will end up drilling a hole in order to apply turning pressure to the control sleeve.



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Illustration B, is a side view of a small format I-Core. A "standard" 6 pin I-Core will be approximately one inch deep. The distance from the face of the core to the locking lug will be roughly 7/16 inch.



4

The key was used to rotate the control sleeve.

The housing that accepts the core may have the capacity for a seven pin core, but it should also accept a six pin core. A housing designed to accept a six pin core will probably be too short to accept a seven pin core. While the overall length (or depth) of a seven



6

A 13/64" drill bit was used.

pin core will be longer than a six pin core. The dimension to the locking lug will be the same, even if you found one of the old five pin Best cores. If you drilled a hole through the housing

a little more than a 1/2" back, you should be able to engage the locking lug with a probe or poke tool. That would give you the ability to apply direct pressure to the control sleeve. You will end up leaving a hole in the housing if you use this technique. You may want to reserve this method for mortise cylinder style housings, since the hole would be concealed when the housing was installed. Drilling a hole in a grade 1 commercial knob might be a great idea.

Drilling to Remove an I-Core

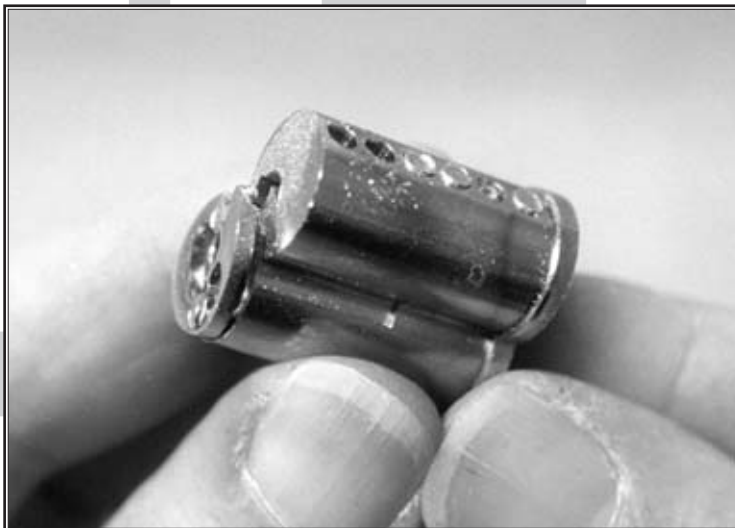
Picking is a finesse method for removing an I-Core. If you can't pick it quickly,

though, it may not be very cost efficient. Just as many safetechs look at safe opening by manipulation as a maybe proposition, but drilling is the sure thing; you may think the same when the choice is picking or drilling for I-Core removal. The drilling technique you use to remove an I-Core will be affected by whether you are trying to salvage the housing (or lock which includes the housing) or if you are trying to salvage the pin configuration of the core. I will demonstrate techniques that do both. When I say that I am salvaging the pin configuration, though, it does not indicate that I am also salvaging the core. In fact all the techniques that I will demonstrate will involve some level of damage to the core. Because of cost, the core will typically be the most expendable item. A grade 1 commercial knob that accepts Best-style cores, can be quite expensive in contrast.

Drilling Procedures

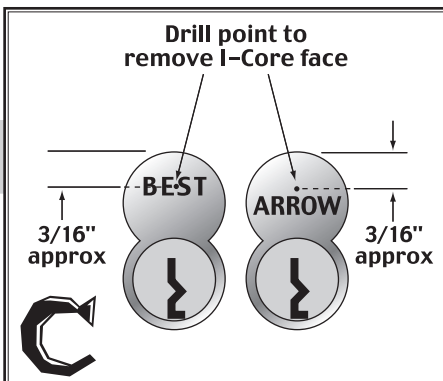
The first drilling method that I will explain presumes both the core and the pin configuration are expendable.

Because the I-Core has two separate shear lines, it is possible to drill either one. Drilling the operating shear line provides no great benefit since the core would be ruined for future use and you would still have to drill the control shear line to remove the core. We will presume, therefore, that



5

The drill bit partially broke the back of the core.



it is necessary to drill the control shear line. If you look back at *illustration A*, you will see that the control shear line measures about 3/32 inch above the top of the plug. You may wish to center punch or find some other way to mark your drill point.

In *photograph 3*, a 3/16" diameter hole was drilled in that spot. I broke off the head (bow) of a key blank that matched the core's keyway and

Continued from page 46



7

I damaged both the core and the housing.

inserted the (headless) key blank while I drilled the hole. You can drill the hole without a key blank inserted, but the key blank will generally help keep pins from shifting downward after the hole is drilled. Plus you can often grasp the end of the blank (that is sticking out) to help rotate the control sleeve.

I drilled about 1" deep to account for the length of the core. I used masking tape around the drill to mark the

measurement and to allow me to know when to stop drilling. As I was drilling I could hear (and feel) each pin chamber being penetrated. If I were drilling a seven pin core, I would have had to drill about 3/16" deeper. It is important that you keep the drill motor somewhat level, so you don't tilt higher or lower and possibly miss the shear line at the deep end of the hole.

The end of the key blank was used to rotate the control sleeve in *photograph 4*. With the core removed, in *photograph 5*, you can see that the drill bit partially broke through the back of the core. When drilling the control shear line, try to avoid using too large a drill bit. If you break through both shear lines at the same time, rotating the plug may only move the plug rather than

the control sleeve.

When drilling to remove the core, but salvage the pin configuration, you should drill in line with the locking lug. *Illustration B*, shows that you must drill at least 7/16" deep to remove the obstruction to the locking lug that is part of the housing. I used a 13/64" drill bit in *photograph 6*, but could have used a bit somewhat larger and still accomplished the same thing.



8

An Arrow core.



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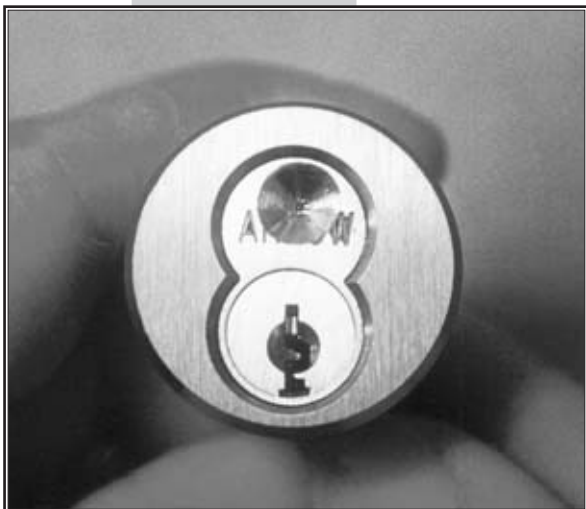
You can see in *photograph 7*, that I damaged both the core and the housing, but I did not disturb or damage the pin configuration. Removing the core should allow you the ability to decode the control key and remove the remaining cores without any further damage. When you find that you will need to use this method and destroy at least one of the housings, you may want to choose a

mortise or rim housing to ruin since they will typically be much less expensive than a knob or lever handle lock.

Drilling and Shimming from the Front

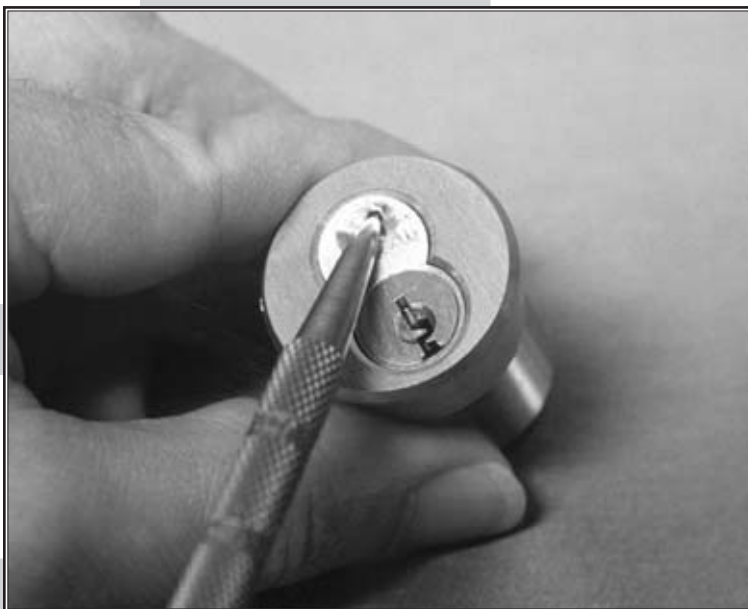
There is another way to drill where you can salvage the pin configuration, but do not damage the core

housing. It will work on most, but not necessarily all small format I-Cores. If you look back at *illustration A*, you will see a part identified as "Boss under I-Core Face". It is a round shaped raised surface just below the face of the core that holds the face attached to it. The face is pressed in



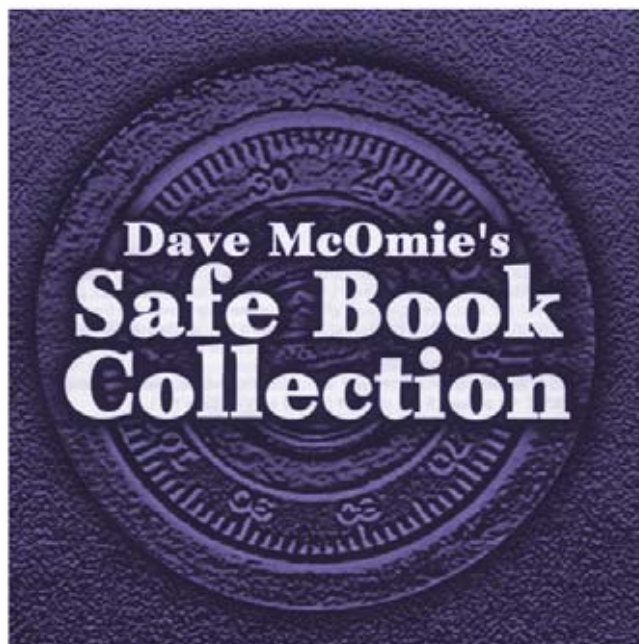
9

The shallow penetration of the drill.



10

A center punch used to break the core's face.



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#DMCD - 1

place on top of it. By drilling into the face at that spot, it is possible to break loose the face of the core and expose the gap of the control shear line so that a piece of shim stock can be inserted from the front of the core.



11

Separating the face from the boss.

chamber. Remember that the last chamber is just below the face, with small format IC tip to bow configuration. You can see the shallow penetration of the drill in *photograph 9*. You can use a bit slightly smaller or larger, but not too extreme in either direction. If you go

started to separate the face from the boss in *photograph 11*. The boss is visible below the bent face in *photograph 12*. After breaking free the face, *photograph 13*, provides a view similar to *illustration A*. With the control shear line now exposed, it is possible to insert shim stock from the front to shim pick the core to the



12

The boss is visible below the bent face.



13

The view after breaking free the face.

too small, you will penetrate the boss and enter the pin chamber without helping to break loose the face. If you go to large, you may also damage the housing.

I used my center punch in *photograph 10*, to break through the core's face. I

control shear line.

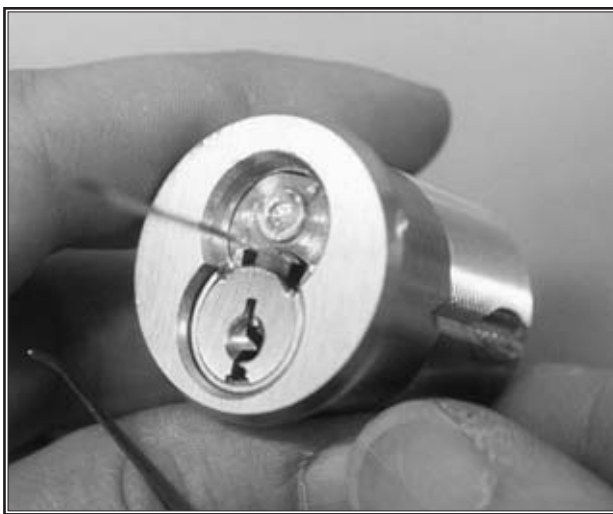
I've found the gap to range from easy to insert a piece of shim stock to extremely tight. The shim stock is inserted part way in *photograph 14*. You may sometimes have to use a small tool to pry the gap a bit larger to allow entry of the shim stock. There is a slight gap on both the right and left of the control sleeve, where you may try to insert such a tool. Even when you slightly open the gap, you may

find the shim getting very tight as you approach the pin chambers toward the back of the core. On occasion, I will try to pick the one or two remaining pin chambers rather than trying to squeeze the shim stock all the way back. I did that in *photograph 15*, where the control sleeve has been rotated, yet the shim stock only split four of the six chambers.

The I-Core has been removed in *photograph 16*. If you are drilling with the lock/housing not attached to a door, you can often just tip the housing and the core will fall out. If you use the procedure on a lock still mounted in a door, you may need to

Illustration C, shows the drill point to be 3/16" below the top of the I-Core. Because the brand names are positioned differently, I found that the location on a Best core was between the "E" and "S", just slightly higher than the middles of the letters. On the Arrow brand core I found the spot to be just above the second "R."

I am using the Arrow core in *photograph 8*, to demonstrate the procedure. Although not shown here, I used a center punch to mark just above the second "R" as previously indicated. I selected a 5/16" drill bit to drill into the face of the core. I'd suggest that you use a variable speed drill motor with a sharp bit for greatest effectiveness. Drill slowly. You don't want to penetrate far enough to break through the last pin



14

Shim stock is inserted.

use a hook pick or broken key extractor (or any other tool adequate to the job) to pull the core out of the housing.

Decoding the I-Core

Although the core cannot be reused, no damage has been done to the pin configuration. That means that it is



15

The control sleeve has been rotated.

top pin should have been. You can then subtract that number from 13 to decode the control key cuts. These numbers and computations pertain only to Best A-2 systems only. A-3 and



16

The I-Core has been removed.



17

A-1, LAB, and PRO-LOK servicing tools.

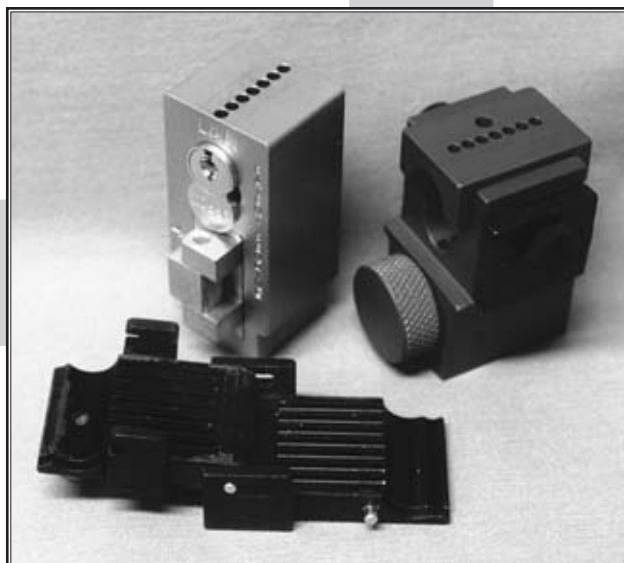
possible to eject the pins and decode the core. If you are not careful, it is very easy to mix up the order of the pins for each chamber. Once the order is switched you will not be able to derive any useful key information. There are a number of tools made specifically to decode cores in that manner. I believe there are only three different ones, shown in *photograph 17*. From left to right, they are made by: A-1, LAB, and PRO-LOK.

Photograph 18, shows A-1's decoding tool opened up and exposing the channels where the captured pins of an I-Core would set in sequential order. A-1's tool is strictly for decoding, while the LAB and PRO-LOK tools also act as IC capping blocks. A-1 uses a separate tool for capping. If the I-Core face is removed, you won't have a stop surface when loading the core into the decoding fixture. Align the chambers carefully.

Once the pins were ejected, you would

need to measure the pin lengths and convert them to numbered pins. If you have no keys at all, but merely the I-Core, you should at least be able to accurately decode the control key. If the chambers are all coded properly with a total 23 pin stack in each, you can figure the control key cuts very easily. For each chamber, subtract the value of the top pin from the number 13. 13 minus the top pin should equal the control key cut for that chamber position.

If the top pins were not coded properly, you can determine what they should have been by adding the combined value of the remaining pins for that chamber (excluding the top pin) and subtracting that total from 23. That number should indicate what the



18

A-1's decoding tool opened.

A-4 will use different numbers.

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Arrow Lock	416	Jet Hardwre Mfg.co.	517	Securitech Group, Inc.	528
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ASSA Inc.	317	Keedex Manufacturing	825	Security Distributors Inc.	752
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.	919	Medeco	401	Visonic Inc.	1160
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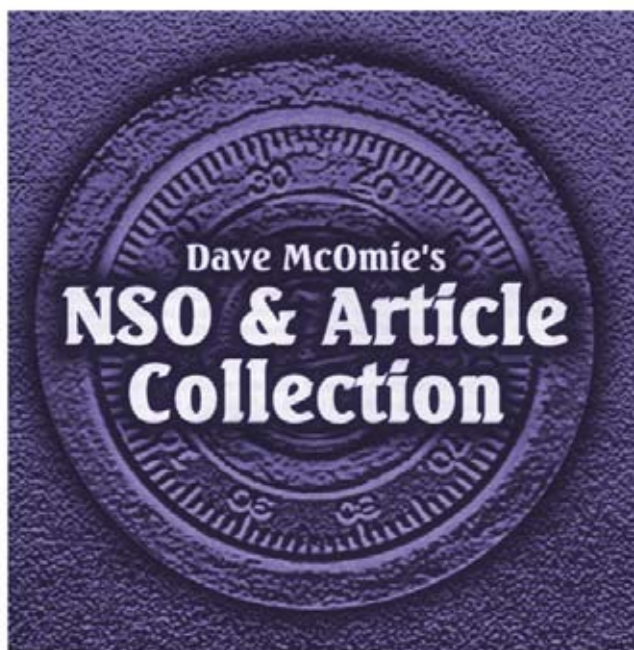


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Continued from page 61

for a minimum 10,000 breakaway cycles; available on all 17,18,19 and XX Series devices; available on Rim, Vertical, Mortise, Three Point Latch and Concealed devices; retrofits existing Monarch trim without additional door prep; works with all electric lock and unlock functions; and is available in all finishes and numerous designs, including Dane, Quantum, Avalon, and Sutro, (Capri not available).

Olympus Lock

Olympus Lock announced the July 2001 release of their newest cabinet lock: the 777IC and 888IC door and drawer locks for Schlage large format interchangeable cores. This lock is similar in design and function to their 700S, 800S and 721 series cabinet locks. In addition to Schlage large format IC core, the 777IC and 888IC cabinet locks will also accept Medeco and Mul-T-Lock large format IC cores. The new 777IC and 888IC are the only cabinet locks available that will accept the Schlage large format IC cores.

The 777IC is configured for door applications and the 888IC is configured for drawer applications. Both are deadbolt style locks and are non-handed. This lock will retrofit into any existing 700S, 800S or 721 installation.



Omnia Unveils Line of Vintage Finish Locksets

Omnia's new line of Vintage Finish entrance handlesets and tubular latchsets imparts the look of aged brass, copper and iron to a striking collection of solid brass designs. The knob and lever designs, along with the Manor and Tudor handlesets, are currently being offered in all three finishes,



which compliment an existing line of Vintage Finish cabinet hardware. They work beautifully together to create a cohesive look in a wide range of antique, period and traditional applications. They deliver all of the security and durability for which Omnia locksets have long been known.

Raised Letters on Stopper Stations

Several models of Safety Technology International's Series 2000 line of Stopper Station push button switches now feature embossed lettering at no increase in price. Embossed lettering that is molded into the super-tough polycarbonate faceplate consists of a choice of the following: Fire, Exit, Emergency and Emergency Exit. Other custom models are offered with raised lettering. The Stopper Station's recessed button design helps to stop accidental activation and makes it ideal for ADA-compatible applications.

Units are used in place of fire pull stations, exit buttons, emergency police call, plant evacuation and medical assistance. Each STI Stopper Station is available in red, green,



yellow, blue or white. Due to UL requirements the color red is only available for fire applications. The customer is also offered the choice of symbol, button and wording in virtually any language.

Videx

Videx announced two new members to the CyberLock family of intelligent locks: the small format IC core and vending T-handle cylinders. CyberLock cylinders transform existing mechanical locks into full-functioning access control systems, without wiring. The CyberLock system grants access to authorized users for specific days and times, and provides a comprehensive audit report of each entry and attempted entry. Videx has electronic cylinders for cam locks, mortise, rim, lever and knobset locks, and padlocks.



Automotive

A-1 Security

A-1 Security, manufacturer of numerous automotive picking systems, has introduced its Domestic Killer Set (#PS100), a complete pick set for General Motors, Chrysler, and Ford 8-cut. The set includes customized picks, tension tools, ignition removal tools, and other specialized tools for picking, removing, and re-installing ignitions.



Mercedes Tool from Al's Locksmith

The Sidewinder MB3 Mercedes Benz faceplate drill with re-sharpenable cutters from Al's Locksmith,



removes stuck ignition cylinders and helps reduce time and labor. Keys can be originated directly from the cylinder. One tool does 1 and 2 poke-hole locks.



Lockmasters SKT Wafer Reader

Make automotive keys without removing or disassembling a lock. The SKT Wafer Reader allows locksmiths to read a door lock or deck lock on most domestic and import vehicles including GM, Ford, Chrysler, Honda, Toyota, Nissan, Mitsubishi, Isuzu, Hyundai, VW and more. Works on most locks using wafer tumblers. Insert the reader into the door lock and pull to draw a diagram revealing the cut depth of each tumbler in the lock. Sight read the diagram or use the enclosed depth/space gauges to determine the correct bitting for the key that fits in the lock.



Unlike other lock reading tools, the SKT Wafer Reading kit reads the locks on most cars using a wafer style tumbler lock. There is no need to buy a new tool every time a manufacturing change is made to the lock system of a car or a new automotive lock and key system is introduced. All parts come in a foam-lined carrying case with handle.

Lock Technology Jimmy and Wedge

The Model 260 6-foot Super Jimmy and Inflate-A-Wedge kit from Lock Technology, combines both the Super Jimmy and Inflate-A-Wedge for safe and quick opening of locked



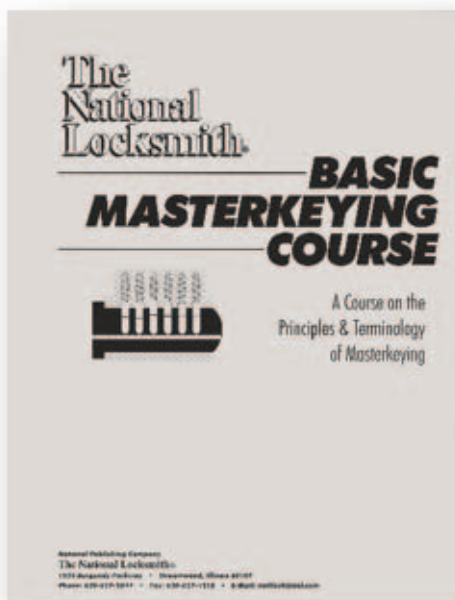
vehicle doors. The kit also includes the Model 100 plastic Slip Jim. The Super Jimmy allows locksmiths to enter most vehicles with the door handle, lock button, or the electric lock switch, eliminating the possibility of disconnecting the linkage or activating an airbag, while the Inflate-

A-Wedge allows safe separation of the door frame from the vehicle body to insert a tool. The Super Jimmy bends to fit most vehicle designs and breaks down for storage.

**Secure Car
Enterprises, Inc.**

Steadfast Security collar is an armored collar, which is permanently installed. It fits primarily General Motors and Jeep vehicles with tilt steering columns from 1978 - 1996. The weakest link in most vehicles is the ignition switch and

Basic Masterkeying Course



13 Lesson
450 page course

The Basic Masterkeying course is designed for the locksmith who wishes to become proficient in Basic Masterkeying.

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#MK - 1



steering column; the Steadfast Security collar protects this area.

The collar is made of impenetrable steel, comes in black or the new Steadfast Pro is chrome plated. The collar is easy to install. Once it is installed, Steadfast is totally passive - you never have to remember to code, flip a key, or heft bulky equipment into place.

Steadfast is the only anti-theft device tested and proven by rental-car agencies and insurance companies.

Electronic Security

Basic Access Control from CANSEC

SmartLock Online is the perfect solution for locksmiths trying to break into the access control market. Designed for basic access control requirements, SmartLock Online is an extremely cost-effective system consisting of single door controllers and simple, easy to use Windows-based data management software. The free software is so easy to use that the end user can typically be trained in 20 minutes.

Single door controllers are quickly installed on standard electrical boxes to keep installation time to a minimum. The system is capable of controlling up to 30 doors and 4800 cardholders per site with an unlimited number of remote dial-up sites. The system supports Access Schedules, Automatic Unlock Schedules, Timed Anti-



Passback, Scheduled Upload/Download, and much more.

Dortronics Intelligent Power Supplies

Dortronics Systems, Inc. has enhanced its recently introduced line of 4200 Series Power Supplies with the addition of "intelligent" accessories that provide advanced door control/alarm system integration features. The company's 4200 Series Power Supplies can now be factory equipped with Isolation Relay, Fused Output, and AT and FT Time Delay Modules that provide system designers and installers with the ability to easily integrate sophisticated features into a single power supply assembly. Dortronics new 4200 Series Power Supplies are available in two models: the 4202 Power Supply features a 2 amp output designed for single and double electronic door lock installations. The 4204 Power Supply offers a 4-amp output for installations with multiple door locks and additional security devices. Both units offer field selectable 12 or 24 VDC output and operate at the exact voltage required even when loaded to their maximum rated output.



Access Control Kits from DCI

DCI has created a complete line of access control kits that saves time and money. They do the work



for you by putting together their finest access control products all in one package. Because they understand the uniqueness of your customers, they can custom build kits to fit your application. Total security made simple.

Delay Egress Lock

DynaLock's 3101B Delay Egress Lock System is a self-contained egress system that features a unique door adjustment wheel that greatly simplifies



setting the proper door movement to trigger the delay cycle. The ball type actuator tolerates door sag or misalignment and operates a concealed optical sensor for high reliability and consistent performance.

OMNILOCK OM2000 Quick Adapter from OSI

The OMNILOCK Access Control System OM2000 QA provides all the capabilities and features of the OM2000, but allows you to adapt OSI's powerful electronics to existing Schlage D-series cylindrical lock hardware. The OM2000 QA is battery powered so no hard wiring is necessary. Furthermore, programming and audit data is infrared transferred to and from the system using a Windows CE Pocket PC. These systems may be installed or relocated in a facility with zero damage to existing doors. Some features include up to 2000 users, 25,000-event audit trail, time schedules and it uses existing hardware.



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SecuraKey

SecuraKey is a leading access control manufacturer for 30 years, offering stand-alone units and systems for up to 200 doors. SK-Net access control software runs on Windows 95-98-NT. Card reader technologies include Radio Key proximity with read ranges from 6 to 36 inches, and Touchcard patented slotless readers. The new e*Tag line of high frequency 13.56 MHz reader/writers are available for security and a variety of other RFID applications. Custom card manufacturing is available.



Computer Managed Stand Alone Lockset from SDC

The new battery powered E72 EntryCheck incorporates all the sophisticated features professionals expect with hardwired systems. Keypad or computer programmable,

the E72 can manage up to 300 users, features a 16 button alpha-numeric keypad with dual depression capability, 3-9 PIN code length, 233 million possible codes, 1,600 event history, 150,000 cycle battery life, real time clock, 9 management group levels, 90 user groups, unlimited time zones, 1,800 scheduled events, double code entry, fail-locked or fail-unlocked.

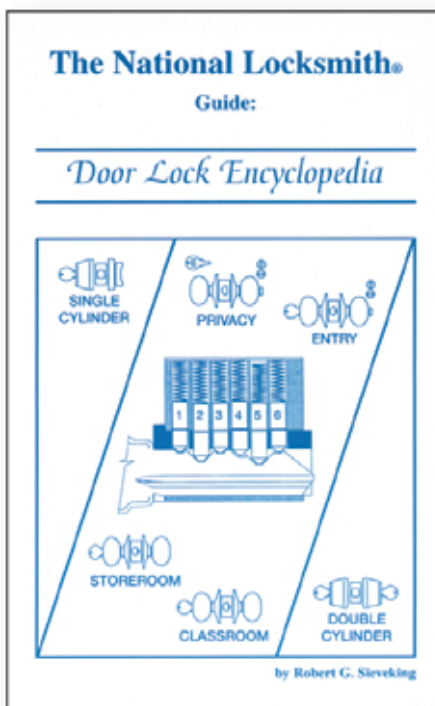


Programming and event history for 200 locksets is transferred between computer and lockset via a proprietary and secured Infrared Data Transmission Device. UL Listed Heavy Duty Grade 1 and ADA compliant.



World's Smallest Electric Strike

Trine Access Technology has introduced the extraordinary new 3234 strike which contains the features of larger strikes in a compact 1-11/16" x 1-1/16" x 1" overall strike body. In addition to 1200 Lbs. holding force, it features the smallest back-set (1") in the industry, stainless steel latch and locking mechanism, and will accept a 1/2" latch bolt. It also meets ANSI standards. The 3234W strike is recommended for wood applications.



Door Lock Encyclopedia

The ability to remove a lock from a door, disassemble the mechanism, and remove the lock cylinder for service is not always a simple straightforward task.

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#DLE

Miscellaneous

Universal Mount

The New Universal Mount Box from Cargolock has many applications. Handy, strong, versatile and convenient, the electronic deadbolt-in-a-box can be used on roll-up doors, tailgates, trucks, step-vans, trailers, tool trucks and commercial specialty vehicles.



VATS and COLORS

Jet's new B62-P1-P15 single sided and B82-P2-P15 double-sided VATS keys flawlessly replicate original GM key blanks. Plastic bows and brass nickel plated blades are standard. New "Groovy Keys" have original designs and coining in a multitude of colors using a special hard coating process on precision Jet blanks. The initial production offers the KW1 and SC1 blanks. Assortment #ccc-50 comes with 50 keys and a display rack. Replacement blanks may be purchased mixed or matched.



Money Tray Holds Sacagawea Gold

Indiana Cash Drawer's 6BT Money Tray is engineered to accommodate the new Sacagawea Golden Dollar coins released by the United States Mint. The 6BT provides 6 coin compartments and 5 currency compartments. Overall dimensions of the tray remain at their standard size of 15.623" Wide x 10.437" Deep x 2.25" High. A lockable steel money tray lid is included. This product can be used

with Model SLD and EL electronic cash drawers as well as Model K, C, R-1, R-2, G-1 LC, and TD-2 manual cash drawers.

Keedex Weldable Gate Boxes

Keedex has expanded its line of weldable gate boxes. Keedex now has more than eighty different boxes, which are used for mounting locks, electric strikes and other hardware on gates. The Keedex

Continued on page 72

Sieveking Auto Key Guide



The Sieveking Auto Key Guide lists over 2,600 automotive and motorcycle keyways, covering makes from Acura to Zundapp, and listing fourteen popular key manufacturer numbers.

[CLICK HERE TO LEARN MORE](#)



#AK - 1

Continued from page 69



boxes are available in both steel and aluminum.

New Lund Key Cabinet

A new Lund Key Cabinet has a locking inner compartment and a locking exterior door as well. Designed to safeguard keys to private records, valuable papers, medical offices, engineering designs, etc. It leaves the keys in the outer compartment accessible. The locks are keyed differently. The locking inner compartment has 50 hooks. The hinged panel has 100 hooks. The cabinet is made of 18-gauge steel, with gray baked-on enamel finish. Other sizes available.



Lund offers more than 70 styles for controlling keys. Capacities from 10 hooks up to 3312 hooks.

Tough Under Fire Clock from Master Lock

Dealers will receive a free "Tough Under Fire" clock when they



purchase one of four Pro Series assortments. The lighted wall clock is 17" square and features the Master Lock 'Tough Under Fire' medallion as its face. The product assortments include a door keyway, solid steel padlock, high-security steel and weather tough assortments. Order through your participating distributor. Clock and product shipped direct from Master Lock; freight is pre-paid.

Coin Lock from Monarch Tool & Mfg.

Controlling access to your facility has become a concern of the customer and businesses. Monarch Tool & Manufacturing Company has acquired the Universal Coin Lock Company, a manufacturer of coin/token bathroom locks since the late twenties. Monarch, with nearly a century of experience in coin



operated devices, has increased the coin box capacity and engineered the unit to tighter tolerances. The device currently can be produced for a number of different coins, domestic and foreign, or tokens.

New Standard Adaptable Padlock System

New Standard offers its padlock models as "bodies only, complete, less shackle." When shackles are switched to meet customer needs, excess shackles accumulate. Any New Standard padlock may be purchased as "body only" to utilize these unused shackles. This eliminates unbalanced padlock and shackle inventories. With New Standard, you are never stuck with excess shackles. By stocking padlock bodies and shackles of popular lengths, every customer request can be accommodated.



Smokie Dome

Se-Kure Controls has three models of Smokie Dome that provide 360 of anti-theft surveillance virtually anywhere in a retail facility. This proven theft deterrent device keeps customers and store employees honest. It can be strategically positioned and mounted with a camera or left empty. Shoplifters will never know which dome is "live." Choose from clear to dark, each



dome fits easily into all standard drop ceilings and permits videotaping for use as evidence against thieves. All types of surveillance cameras can be used with their universal camera bracket. Install numerous domes to provide the illusion of a large security system. Smoke Dome comes in three sizes 22" diameter, 12" diameter and 9" diameter to provide appropriate options for any sized facility.

Safes & Safe Products

Adesco Guest Safes

Adesco Safe is pleased to offer 2 new "Guest Safe" styles. The GS-5EC-LTB and GS-10E-LTB models boast the LaGard "Two Bolt" locking system. A combination is required to both open and close the safe, and can be programmed with a manager override code. The GS-5EC model is equipped with a manager override key. Most cards the size of a major credit card with a magnetic strip with operate the safe.



These units are the perfect choice for hotels, nursing homes, dormitories, or any location where temporary storage is a necessity.

AMSEC

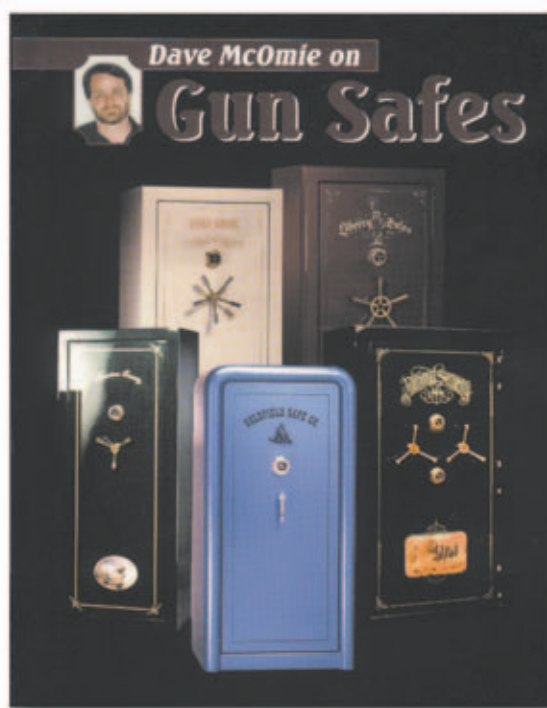
American Security Products (AMSEC) has been in business since the late 1940's and has always remained committed to manufacturing innovative quality built safes. Every year AMSEC evaluates market trends and develop products to enhance their position in the market as the industry leader. AMSEC has added several new products that will reach a broader



range of clients and add additional revenue to your hard working bottom line. Solid steel electronic burglary safes, fire resistant document cases and compact electronic or combination fire safes. Each model offers several outstanding features and is competitively priced enabling you to compete against low priced products through discount outlets in your region.

Hotel and residential burglary safe offers a motorized locking system, a large LED display and a durable keypad. The 4-digit

Gun Safes



Need a drill point or relocker drill point on a gun safe?

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#GS - 1

combination is programmed for standard hotel room configuration. The safe is competitively priced for marketing to hotels or on a retail basis for the consumer who like the safe they used on vacation and wants one for the home.

Self-Contained Color Video Borescopic System

The AngioLaz VBS-1mMH converts existing flexible or rigid borescopes to a convenient, easy to use, high intensity illuminated video borescopic system. The high intensity metal halide illuminator is ideal for applications where high brightness is required. The included camera automatically adjusts to make it useful in less difficult conditions. The daylight quality of the light provides superb color rendition. The combination provides clear, convenient images in hard-to-reach locations by separating the scope from the viewing function. At the same time it permits viewing by several persons simultaneously so the areas of interest can be pointed out and documented.

The VBS-1mMH consists of a small remote head video camera and coupler, which attaches with a single cable to the base unit. The base unit, which has a handle for easy portability, is a 10" color monitor with a built-in, high-intensity 24-watt removable metal halide module.



Hayman Safe Company

Hayman Safe Company, using its 30 years of safe design experience, has combined brute strength with composite construction to create the new MagnaVault. With a 1-1/2 hour manufacturers fire label and massive bolts you can have peace of mind



knowing that your important papers and valuables will be protected in the event of an attack. The large hinges and quality UL Group 2 locks being used insures you of many worry free years of protection.

515 Electro-mechanical Safe Lock

Ilco Unican's 515 electromagnetic safe lock is UL listed Type 1. It has four security levels; programmable dual custody, time delay, open window, tamper shutdown and lock-out features. The unit includes Convert-A-Bolt technology allowing for field selectable deadbolt or springbolt operation. The bolt is manually retracted and extended, accommodating push-pull attachments.



Mossberg InstantAccess Portable Safe

The Mossberg InstantAccess safe was designed by a veteran law enforcement officer and is the only safe that is portable and completely secure. It has all the features that are critical for the safe storage of documents, electronic disks, cashor



other valuables. It provides quick access using a digital keypad and a 4-digit pin code, has a red lighted interior, and features solid cast-metal construction. One mounting plate is included, additional plates are available.

Perma-Vault Safe Company's Security Chest

Perma-Vault's Compact Security Chest offers affordable protection for personnel belongings. The heavy gauge steel constructed chest measures 8" H x 14" W x 15" D and is large enough to secure laptop computers along with digital camera's, cellular phones, pagers, purses, etc. The attractive powder coat finish allows for installation in large offices, student and military housing, government and institutional facilities as well as any area where high volume public access requires personal items to be locked away. Perma-Vault's many locking and stacking options permits a variety of configurations to fit within any budget.



Rhino Fire & Burglary Safe

Mutual Safe Company, Inc. is introducing a newly redesigned Rhino Fire and Burglary Safe. The ever popular Rhino 1 hour Fire and Burglary Safe has recently received a

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new look. In addition to the excellent fire and B-rate burglary protection, it now comes with a state of the art fire seal and glass relockers.

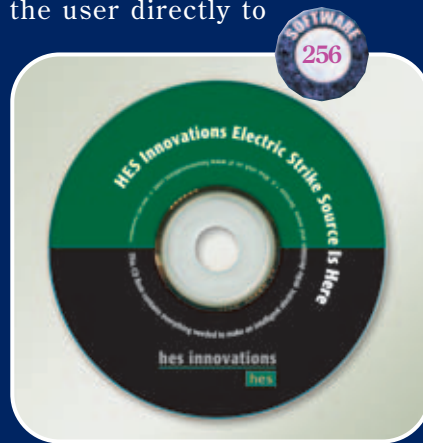
the mystery out of master keying. You get super powerful features designed to be easy enough for virtually anyone to use and understand. You get, fully customizable systems and reports designed to make your job as easy as possible.

HES Electric Strike Source on CD-Rom

HES, Inc. now has the Electric Strike Source Version 2.0. Unlike anything available to date, Electric Strike Source is a simple, query based, graphic selector that guides the user directly to

the HES electric strike and faceplate option best suited to the access control application. It provides features, benefits, and typical applications - a great selling tool for sales representatives. Installation instructions and electrical specifications for the installer and even CSI specifications for the architect or specifier are included.

As an added benefit, version 2.0 allows the user to configure pricing, request a quote, or submit a PO via fax, email, or online ordering. The Electric Strike Source is available in CD-ROM or can be downloaded directly from the HES website.



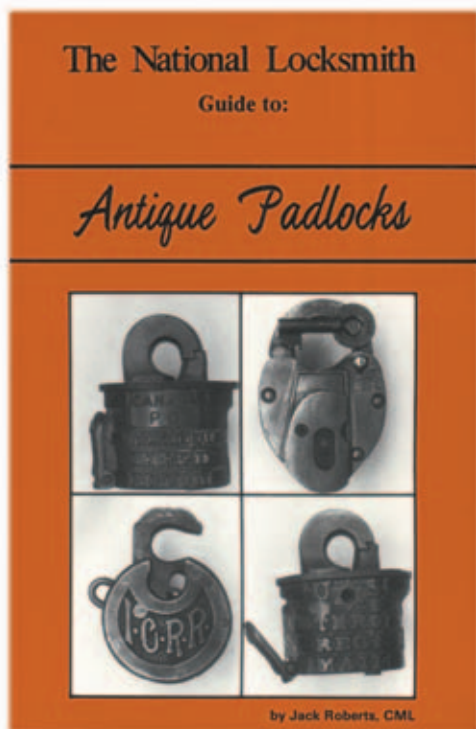
HPC Learning Software

HPC has two new additions to its Live Action Learning Software Series: How to Master Car Opening for the Security Specialist and How to Create Master Key Systems for the Security Specialist. These new guides are loaded with informative audio, video, animation, photography and illustrations that clearly and concisely take you

Software

KeySoft® MasterkeyPro®

"Master Keying the World" since 1990. Want the right tool for the job? Get MasterkeyPro. It takes



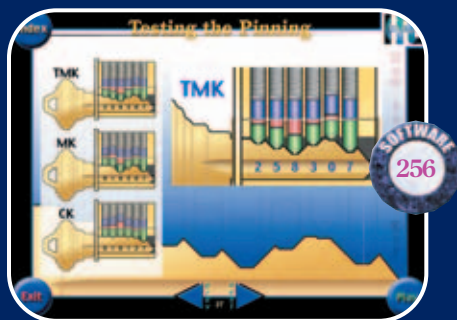
Antique Padlocks

Finally there is a book to give you all the information you need about old interesting locks.

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#PAD - 1



through the essentials of Car Opening and the Creation of Master Key Systems.

How to Master Car Opening takes you step by step at your own pace through the 13 methods of car opening with a detailed multimedia training approach. How to Create Master Key Systems is the perfect topic for this training format. Never has there been a more concise, easier to understand program to teach Master Keying. Whether you are new to the industry, want to brush up your skills, or are in charge of training new security specialists, the Live Action Learning Software Series is ideal.



STRATTEC CD-Rom

STRATTEC has a new searchable CD-ROM called PartSearch. It contains part number cross-reference information for all service products STRATTEC has supplied since 1972. PartSearch allows the user to identify part numbers or application data in a fraction of the time it takes to page through a paper catalog. The database can be queried by vehicle make, vehicle model, STRATTEC part number or competitor's part number. Description of the parts are provided, as well as pictures, and footnote information normally supplied in the paper catalog. The PartSearch CD will be available from STRATTEC distributors in July.

• Tools & Accessories

BSL Industries

BSL Industries is now offering the newly designed "Long-Shot" drill guide fixture for drilling a wire chase in doors from the hinge edge to an



electrified lockset cut out. The Long-Shot drill guide fixture spans the entire width of

36" doors to insure accurate alignment on doors that are less than true and/or have ornamentation. It will mount on doors from 1-3/8" to 2-1/2" in thickness (even thicker will use supplied "C" clamps) in just seconds. It guides a 3/8" x 48" drill bit in wood and steel doors with less than 1/4" drift.

Three precision guidance drill bushings (Rockwell-C 62-65 hardness) are used to ensure years of optimal performance. The Long-Shot is a heavy weight, with its all stainless steel, welded construction (guide alone weighs 6 Lbs.). Rubber backing prevents scratching and marring of the door. A custom 3/8" x 48" long drill bit with the Long-Shot is housed and supplied in a durable padded carrying case.



Key Manager

Designed both as a complimentary product for ProMaster and also as a stand alone product, this is a premium quality program, developed in accordance with industry standards and requirements for this type of software.

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Tubular Lock Pick

ESP's tubular lock picks are manufactured of hardened steel with knurled brass handles. It features polymer sleeves, which slide over the handles for those who prefer the feel of rubber. The picking needles guide smoothly, requiring minimal break-in before using, and are sized right for feel and control. Picks include a decoder key and have a manufactured tolerance of .002".



Gil-Ray Tools Replacement Cutters

Gil-Ray Inc. best known for their mail-in sharpening service for dull key machine cutter wheels, now offers precision quality replacement cutters for code machines. Gil-Ray currently stocks new replacement cutters for most popular machines and also has some hard to find wheels in stock.

Ilco 029A Dual Function Key Machine

Ilco's 029A is a dual function key machine capable of duplicating or cutting a key by code number. An application booklet, supplied with each machine,



identifies the specific accessories required for various auto lock code applications. Other features include: special four-way vise jaws to insure a firm grip on virtually any popular automotive key blank and wide spacing jaws to accommodate new, longer key types.

Ratcheting Screwdrivers

Jensen Tools has introduced two new ratcheting screwdrivers. Model #118-300 is a magnetic ratcheting screwdriver that features bit storage in the handle. Its reversible ratchet mechanism changes direction with the turn of a knob. It includes Phillips #1 and #2, plus slotted bits 3/16" and 1/4", and accepts all 1/4" hex drive bits. Model # 118-301 is a 4-in-1 reversible ratchet screwdriver complete with two double-ended reversible bits: slotted 3/16" and 1/4" and Phillips #1 and #2. The ratcheting mechanism reverses with the twist of a knob. Like all Jensen brand hand tools, the ratcheting screwdrivers have a Lifetime Guarantee.



Pin Refill Packs

LAB has three new pin refill packs for interchangeable cores, Schlage and Kwikset. The IC pack, which is color coded in brass, has 18 top master pins sizes 12-19, 10 bottom pins sizes 2-19. The Schlage pack has 8 brass master pins sizes 2-9; 3 brass driver pins 1, 2, 3; and 10 nickel-silver bottom pins sizes 0-9. The Kwikset pack has 6 brass master pins, 2 brass driver pins and 6 brass bottom pins. The three new refill packs have 100 pins per size.



Major Manufacturing

Major Manufacturing has acquired the Afco line of locking bolts. Once again the model numbers 74 and 79 locking neck bolts as well as the model 76 surface bolt will be available from your locksmith distributor along with other Afco products.



LOX-OFF® Lock Opening Kit

LOX-OFF® (patent pending) will help the locksmith to precisely drill open 96% of all sizes of disc and rectangular padlocks and 98% of keyed knob and keyed lever door locks. The LOX-OFF® is so precise that you can precision drill the lock plug and not damage the lock cylinder or vise-versa. Hard drill guide bushings prevent drilling your hand.



The LOX-OFF® can be used to easily open both dial type and 3 and 4 wheel combination padlocks, and can be used to open rekeyable padlocks so they can be rekeyed and easily repaired. The LOX-OFF® opening kit comes with a detailed 20-page instruction book that makes its use so easy that you can send an apprentice on a lockout job with no worry.

PRO LOK's Blue Punch Key Machine

The Blue Punch Key Machine is a dedicated key punch machine designed to provide "factory original" keys. The Blue Punch is fast, extremely accurate and easy to use. The machine is set up at the factory to provide automatic spacing

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and depth. An ideal machine for the commercial locksmith, hotels, schools and other institutions. Fast and easy to use, this machine is precision machined to the tightest tolerances. Heavy duty and built to last. Portable and dependable, hand operated - no electrical outlet is needed.

Tru Hone Knife Sharpener

The Tru Hone Knife Sharpener gives you a perfectly sharpened knife in a fraction of the time



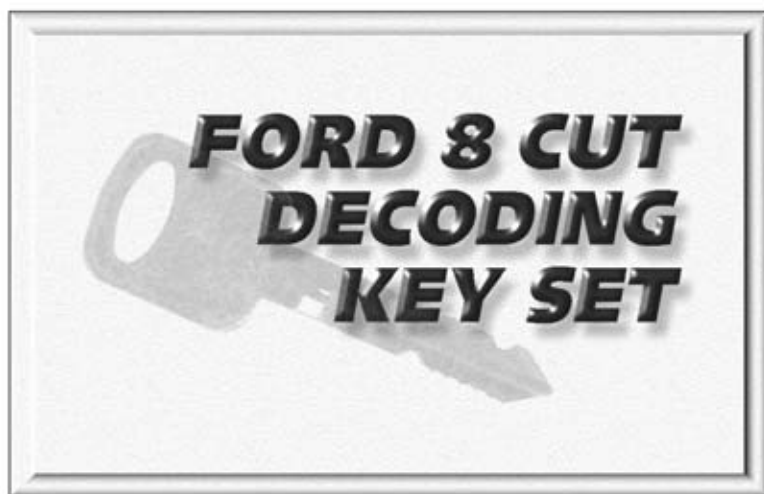
required by old-fashioned methods. It sharpens both bevels of a knife blade simultaneously, resulting in equal bevels and precision sharpness in less than a minute. The Tru Hone can easily be adjusted to different angles allowing you to tailor your knives for any type of cutting operation. Its heavy-duty stainless steel construction and 1/2 hp motor means you will get years of maintenance free knife sharpening.

Borkey 944 2000 Rexa PLUS

The Borkey 944 2000 Rexa PLUS machine has just been introduced in the U.S. It has all the quality you've come to expect from a Borkey machine, plus new features that you've requested. Precision four-way jaws are designed to grip the toughest keys and this machine has the long-lasting cutter that Borkey machines are famous for. The machines are sold direct to the locksmith by DiMark International where service is the key word. The standard Rexa, known for its longevity and accuracy, will continue to be available.



Ford 8 Cut Decoding Key Set



Complete with 143 specially cut keys and simple directions. You get door and ignition keys within just a couple of minutes.

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#FD - 8

PRO-LOK® PKA2 Deluxe Tubular Pick



by
Bob Sieveking

The PRO-LOK® PKA2 tubular lock pick, represents a significant improvement over the original Lee Industries pick you studied in an earlier article. (See *photograph 1.*) Lee Industries no longer manufactures the original pick. PRO-LOK® recognizing the advantages of the pick design has made it, and made it better than the original. Many of the original design advantages, like; the universal tip for 7-pin Left, Right or Center picking, tactile individual pin picking, individual locking pick elements, and sturdy construction, have passed through into the new design. The PRO-LOK® PKA2 design introduces a new “hardened” locating key and a “recessed tip design.” These are nice improvements that increase the durability and improve the application of the pick.

The recessed tip design of the PKA2 allows us to pick cylinders like the one shown in *photograph 2.* This is a typical Pop-Up T-handle design, with a recessed tubular lock cylinder. The recessed design protects the cylinder from mechanical wrenching attack and frustrates most other pick tools.

The PKA2 is designed to manipulate all standard 137, 7 pin cylinders, Left, Right, and Centered configuration. The PKA2 uses a combination of impression and individual pin manipulation to defeat the tubular cylinder.

In *photograph 3,* you see the rear of the pick. The pick element tension screw in the center of the pick is used to apply tension to the pick elements. Tightening this screw will apply dampening tension to the pick elements. Also shown are the seven pick element locking screws. Each thumb-screw positively locks an individual pick element.

Photograph 4, shows the tensioning screw, metal washer, and natural rubber tension washers. It is important to note that the washers are a gum type rubber. Though there is no instruction sheet supplied with the product that cautions against lubricating the pick, I would think that they are not oil resistant. Oil or solvents could cause them to dissolve. So, just to be on the safe side, I would avoid lubrication of the pick elements. Tighten the tension screw to load the pick elements just enough to prevent them from being easily moved by the cylinder springs of the cylinder being manipulated. The pick tension should be adjusted to balance the spring tension of the cylinder springs. The action of the pick in the keyway will cause the pick elements to be forced back much as you would impression any other cylinder.

The pick tip is shown in *photograph 5.* The locating key is a fixed element. It engages the keyway of the cylinder nose to place torque on the nose and rotor of the cylinder being picked. The locating key is retained in the rotating block by a recessed retaining screw. The pick tip acts as a guide for the individual pick elements. Note that the pick tip is short. It is designed to enter the top of the round keyway, but it will not bottom against the rotor. It is cut back, to bypass “dead pins” in the keyway that would prevent picks of any other design from fully entering the keyway. The L-C-R locking thumb screw, locks the rotating block on the

pick tip in any of three positions, to positively position the locating key for Left, Center, or Right configured cylinders. The bullet nose of the L-C-R locking screw engages one of the three detents in the pick tip shaft, to accurately position the locating key.

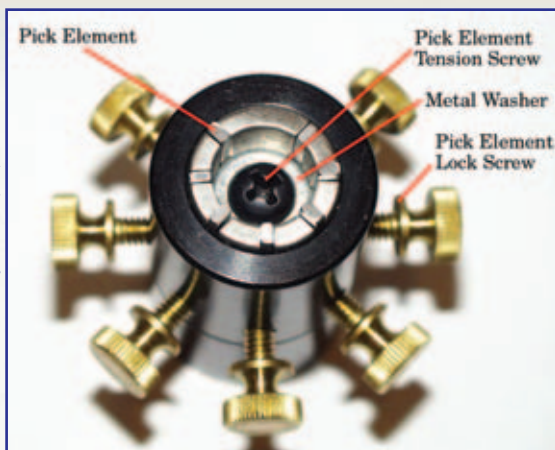
Photograph 6, shows the pick configured to manipulate a 7 pin Centered cylinder. Note that the locating key is centered in the pick tip between the #1 and #7 pick elements.



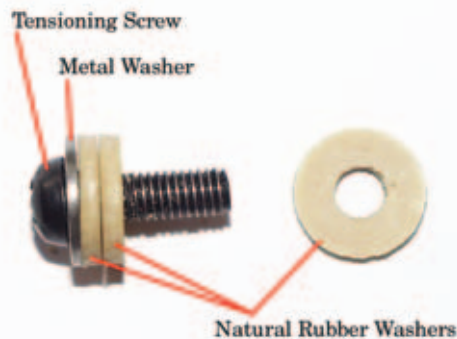
1. The PRO-LOK® PKA2 tubular lock pick.



3. The pick element tension screw in the center of the pick.



Pick Element Tensioning



4. The tensioning screw, metal washer, and natural rubber washers.

You also have a good view of the recessed socket head cap screw that retains the hardened locating key. Loosen the L-C-R locking screw, turn the rotating block to the right, and tighten the locking screw to reconfigure the pick as you see in *photograph 7*. The pick is now configured to operate 7 pin Right configured cylinders. If you encounter a 7 pin Left configured cylinder, simply loosen the L-C-R locking screw and turn the rotating block to the left limit. Tighten the locking screw to fix the rotating block and locating key as you see in *photograph 8*. The pick is now

configured to operate 7 pin Left configured cylinders.

This is by far the easiest tubular pick to reconfigure. It can be quickly and easily adjusted to accommodate any of the three standard 7 pin lock configurations. There are no extra tips or loose parts.

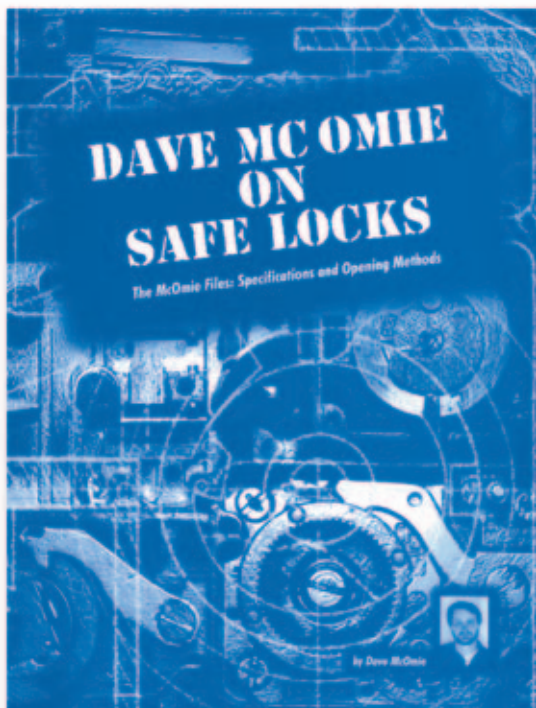
Using the PRO-LOK® PKA2 Tubular Pick

Inspect the keyway to determine that all pins are free to operate, and that the keyway is free of dirt or debris. Determine the configuration of the cylinder and set the picks locating

key to the proper position for the cylinder. Loosen all of the pick element locking screws to free the pick elements.

Method #1, Impression Technique

Adjustment of the "Pick element tension screw" is the one adjustment that is critical to the proper operation of the pick. If you are to use the pick as an impression type pick, you will need to tighten the tension screw to pre-load or dampen the movement of the pick elements against the force of the cylinder springs. The tension should be just enough to prevent the pick



Dave McOmie on Safe Locks

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5. The locating key is a fixed element.



6. The pick is configured to operate a 7 pin Centered cylinder.



7. The pick is configured to operate a 7 pin Right cylinder.

elements from rising as the pick is pushed into the keyway. If you push the pick into the keyway and one or more of the pick elements rises at the rear of the pick, remove the pick and tighten the tension screw about an eighth of a turn. Push the pick elements flush with the rear of the pick and push the pick straight into the keyway again. Too much tension is just as bad as not enough tension. Too much tension will lock the pick elements against movement as you try to impress the pin depths.

The adjustment is different (more tension) for ACE type locks than it is for common cylinders used on mailbox, padlock and rim cylinders (less tension). Properly adjusted, the cylinder will be picked in a very few strokes.

After adjusting the pick tension, push all of the pick elements flush with the rear of the pick. This will extend the pick elements at the tip of the pick to a "zero depth" position. This approximates a blank key or zero bitted key. Our impressing must begin with all of the pick elements at the zero depth extended position.

After adjusting the pick tension, and zeroing the pick elements, insert the pick fully into the keyway. Relax any turning tension, and allow the pick to rise out of the keyway by about the thickness of a dime. Apply turning tension in the opening direction (usually to the right) and push the pick sharply into the keyway. Any binding pin will cause its' pick element to rise in the pick (impression) by the amount of the inward stroke. Relax the turning tension and again allow the pick to rise in the key by about the thickness of a dime. Apply turning tension to bind the pins and push the pick straight into the keyway.

Keep the pick as straight with the face of the cylinder as possible. Rocking the pick will bend or distort the pick elements and locating key, possibly damaging the pick tool. Binding pins will cause the pick elements to rise in the pick, deepening the cut depth to accommodate the bound pins. Continue this push type impressing technique until the cylinder picks. If after a few minutes, the cylinder is not picked, lessen the tension on the pick element screw very slightly. It is possible to pick less expensive cylinders in as few as two or three strokes when the pick is properly adjusted. ACE II, some Fort, and the new American cylinders will present a more formidable challenge.

When the cylinder picks, resist the temptation to rotate the cylinder to the open position. Rotate the pick about 15-degrees away from the key pull position. This locates the rotor so that the top pins and springs are not acting on the combining pins. The combining pins in the rotor, are located over a blank area of the barrel. With the pick 15-degrees away from the key pull position, accurize the pick to the combining pins by pushing in on each of the pick elements, from the rear of the pick, while holding the pick tightly into the keyway.

Finger tighten each of the pick element locking screws to fix the pick elements in position. Once all of the pick elements have been locked in position, the pick can be used as a key to operate the cylinder. Always accurize and lock the pick elements before rotating the picked cylinder farther than 15-degrees from the key pull position. Rotating the pick too far may allow the cylinder to "re lock" out of position, making it necessary to pick the cylinder again. Avoid the problem before it happens. Accurize and lock the pick before you rotate the cylinder.

Method #2, Tactile Picking

Tactile picking, the alternate picking technique, allows the locksmith to pick each pin individually. With this technique, it is not necessary to adjust the pick element tension. The pick element tension is set to minimum. All of the pick element locking screws are loosened to allowing the pick elements to move freely. When the pick is inserted into the keyway, all of the pick elements will rise out of the pick to the maximum cut depth.

Insert the pick straight into the keyway. With all of the pick elements

Continued on page 86

Auto Lock Service



Covers opening and
service techniques.

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#ALS - 1

Continued from page 84

free, and at their maximum depth, apply medium to light medium turning tension to the cylinder. The cylinder will be prevented from turning by only one or two driver pins at the shear line. Not all of the pins will be bound by the turning tension. Much like picking a standard paracentric cylinder, only one or two pins will prevent the cylinder from being rotated. Once picked, other pins will begin to bind. Locating the binding pins, picking them, in the order that they bind, and picking the remaining pins will eventually allow the cylinder to rotate.

Apply turning tension to the cylinder, and tap the rear of each pick element with the tip of your finger. You will find: Pins that are hard, pins that are spongy or springy resilient, and pins that move but are stiff. If the pin is solid or hard bound, push in this pin (pick element) while feeling for a click or snap. The hardest pins are the pins that are bound. These are the "stop" pins. If you push on a stop pin and feel a snap, you will have found the shear line for that pin stack. Push

in to hear and feel the click or snap, then lock that pick element with the individual locking screw. As each position is neutralized, you will find that another position will become the "stop" pin. Using this method, you are picking, while feeling for the pin that is most bound.

Do not lock or try to feel for a click if the position is spongy. These positions are not "binding." You can only pick or feel for the shear line at those positions that are bound. Once a shearline is found in a particular pin stack, lock that position and move on to find the next. When all seven pin stacks have been solved at the shear line, the cylinder will rotate. As before, rotate the cylinder 15-degrees away from the key pull position and accurize the pick to the cylinder. Loosen one pick element at a time. Hold the pick perpendicular to the cylinder. Keep the pick tight against the face of the cylinder as you push in on the individual pick element and lock it in place. Accurize all seven pin positions

and lock the elements. The pick can then be used as a key to rotate and open the cylinder. If a key is to be made, continue by decoding the pick.

Decoding the Pick, To Make A Key by Dimension

Photograph 9, shows the decoding of the pick using the included Depth or Read Key. The Read Key is held flat against the rear of the pick over the rear of a pick element. The height of the rear of the pick element reveals the depth of the cut required in that position of the key. The pick element should just touch the inside of the cut in the Read Key. Read and record the cut depths indicated by the pick. Be sure to read and cut the key in the same direction. Read clockwise from the picks locating key, and cut the key using the recorded depths clockwise from the locating key on the blank. Be careful, it's easy to get turned around, and end up with a wasted blank.

Repair or replacement parts are available from PRO-LOK® at: Phone: (714) 633-0681; Fax: (714) 633-0170; E-Mail: mail@pro-lok.com; Web: www.pro-lok.com. Circle 206 on Rapid Reply. 

8. The pick is
configured
to operate a
7 pin Left
cylinder.

L - C - R
Locking Screw

7-Pin Left
Configuration



Measuring a #7 Depth
using the "Depth Key"
or "Read Key"

9. Decoding
of the pick
using the
included
Depth or
Read Key.





Finding
n e w
business for

locksmiths takes creativity and careful thinking about when and why people call you. A lot of advertising that works for other businesses is a waste for locksmiths.

A substantial number of calls come to you as an, “emergency” where people have locked themselves out of their homes or cars, or where keys were lost and a new lock is needed or duplicate keys made. The average person has no clue whom to call, so they turn to the telephone directory. Notice I said the telephone directory, not Yellow Pages, because there are several copy cat phone books floating around using the generic term of, “Yellow Pages.”

From a marketing perspective, I would strongly suggest you focus any paid advertising on the telephone directory from your local phone company only. Despite the exaggerated claims, I know of no company who could pin down enough new business to simply break even, on the investment in these other directories. The main reason is there is no way these imitation directories can get the huge distribution and usage the phone company directory generates. Put your extra bucks in a bigger ad with the phone company.

Networking in the Right Places

There are certain people that get calls similar to yours, police, insurance agents, window glaziers, board-up companies, towing

companies and burglar alarm companies. Each of these resources has the potential to bring you lots of calls.

A locksmith I know from a long time ago, used to go to wholesale places where he could get inexpensive plastic flashlights by the case and a box of cheap import batteries. He then found a guy who did imprinting, (hot foil stamping on the barrel of the flashlights at reasonable prices.) His message was a simple three lines: Emergency Locksmith Service Now! We Won't Keep You Waiting!

ABCD Locksmiths

Available 24/7

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Each time he'd meet someone who had potential of referring new business his way, he'd give them a flashlight and batteries as his “business card.” He kept a record and when he'd be in their neighborhood he would stop by and offer them a few fresh batteries. It was a great excuse to remind them who he was and what he did. He suggested people save those flashlights for power emergencies in their car or desk. That way they knew where to find his phone number if someone had a lock emergency.

It was successful because he limited these to people who could give him business, such as those mentioned.

Marketing to Groups

Find out where the trade associations for police, insurance agents, window glaziers, board-up companies and burglar alarm companies meet. Ask for permission to attend. There are two positive things you can do to make some strong connections.

First, just go and network. Introduce yourself to people and offer your business card. Personally, I like the magnetic back cards because it's easy for people to stick them on a metal file cabinet or metal desk. Also hand out the paper cards, some people will want to place them in their wallets. When you offer the cards say, “Just in case some dark night you need a guy like me, here's my phone number.” It makes people value hanging onto the card.

Second, offer to be a speaker at the next meeting on, “What every police officer should know about locks” or “What every insurance agent must know about lock safety for their clients.” Remember, these are people who deal with these issues every day, they see you as a professional and will love to hear you talk.

Relax about speaking to a group, all you need to do is explain to them the things you believe will help them do a better job for the people they serve. Perhaps bring along a few locksets to show. If you are nervous tell them it's a simple fifteen-minute talk and you'll be happy to answer any questions afterward. Anyone, even nervous ones, can sweat out fifteen minutes. Once you do one or two the nerves

will calm down. Just keep thinking about all those lovely money making calls you can generate.

Someone once asked me why this stuff works and my answer is this; people always prefer to do business with someone they know, even if only slightly. Talking with you at meetings, seeing you give brief talks as an, "expert" on locks, all makes people see you as an authority and best of all an authority they personally know! When you need help would you prefer to call someone you knew like this, or just fish around the phone book?

There's an additional benefit. These folks know and work with people who also need locksmith services. People you don't know and may never meet otherwise. If they believe you to be creditable you'll get some great referrals.

Another Good Prospecting Segment

Landlords are another group to solicit. They have business associations where you could attend a few meetings. Perhaps a newsletter where a small ad may do some good. Perhaps their association may want to hear a short talk, "What every landlord should know about locks." The bigger landlords have many properties and often their lock problems are very serious issues. A dependable locksmith who is available can be an important resource to them.

Get Your Name Mentioned at Meetings

There's nothing like having good things said about you from the podium at a meeting you attend. Whenever you go to meetings to network, take a few imprinted items with you (like the flashlight idea). Introduce yourself to the president of the association before the meeting. Tell him or her, you have a few items they can offer as a door prize you'd like to donate.

This gets people talking about you and noticing you. It helps pave the way after the meeting for you to meet new people.

Advertising Specialties

If you are trying to sell your services, I believe it helps to do whatever you can to make sure your name and phone number are predominate with your prospects. One way is to use carefully selected advertising novelties.

Understand the words "carefully

selected." Handing out a fistful of pens or ice scrapers is throwing money away. Concentrate on something where your phone number will be displayed. One such item is the magnetic business card, which can be placed on steel office furniture for quick reference. Another is a good calendar you can hand out around the holidays.

Ineffective Advertising

Just as certain advertising techniques are effective for locksmiths, there are others that are much less productive. Here's a few that really don't produce very much if any.

- Church directories, telephone book covers, sponsoring some community service, merchant calendars with coupons, ads on grocery bags, ads on bus stop shelters or outdoor seating. These have extremely limited viewers.

- Sports teams
- Ads in directories
- Cheap radio or cable TV spots at odd hours
- Ads in any low general circulation publication.
- Any ad where you justify it by saying, "Well, at least it gets our name out and lets people know we are here." If this is the only reason you are doing it, stop.

- Buying advertising to "support" or "show your support" to any organization, community, charity or religious group.

This is the lie sales people for these off beat media hand out. Usually as a last resort if you won't buy, they hand you the good old "guilt trip." They make you feel people will be so overwhelmed by your generous purchase of advertising they "will consider you the next time they need ____." All because you "supported" their group or organization. Don't buy ("support" them) and you are the scum of the community!

Nonsense! When was the last time you remembered and looked up some company to buy something, just because you were so overwhelmed by their kindness? Life doesn't work that way.

Nearly all such money you spend for such ads go to the sales commission and to the promoters of the scheme. Even if the organization

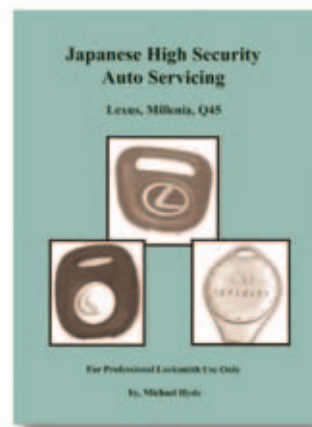
is a good one, understand that they have "loaned" their good name to promoters selling this stuff. They wind up receiving only a small percentage of the money you pay.

If you really like the organization and want to support them, then write them a check, send it straight to them and show it as a donation, which it is. At least that way all the money goes to the group, without huge deductions for sales commissions, overhead and promoter's fees.

If these ads had any value, the sales people would be out selling the big companies with big advertising money to spend. National advertisers would snap up every available ad space. The reason they don't is these ads simply don't produce enough results to justify spending the money on them and advertising people are smart enough to know this.

(Ted Tate is a nationally known author and trainer. His powerful seminar on "Handle Objections and Close More Sales" is one of several he gives at in-house sales meetings and conventions nationwide. He offers additional free sales success tips at his website: www.trainingexpert.com) **TNL**

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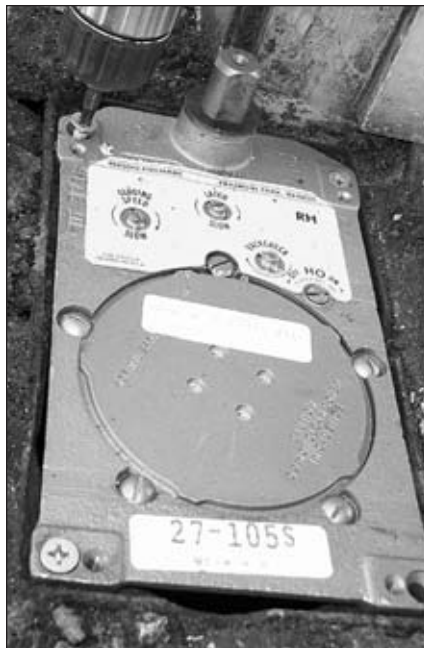
#JAP - 1

BEGINNER'S CORNER

Servicing Floor Closers, Part 3.

by
**Raymond
Moreno**

As you remember from the last article, I had just removed the old floor closer, and was debating what to do next. The reason was, I had to determine the condition of the existing cement cases. If they had been in really bad condition, I would have to hammer-drill and chisel the cement from around the old cases, and install new cement cases. If you look at *photograph 1*, you can see that when I finally examined the cement cases, they were in good operating



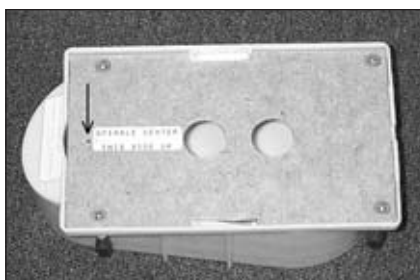
1. The closer is already installed into the existing cement case.



2. The installation of the upper pivot set.



3. Installation of the lower portion of the pivot set.



4. The small hole on the cover shows where the spindle center is.

condition. There was some rust build-up on them, but their structural integrity was fine.

All I had to do was lay the new floor closer in the cement case, and fasten it down with the four screws provided. Like my mama always says, "If it taint broke, don't fix it!" (Or was that "Granny" from the Beverly Hillbillies?) Anyhow, so that you don't say, "Aww man... I thought he was gonna show us how to install a floor closer from scratch!" I'm gonna backtrack a moment and talk you

through the cement case installation process anyway.

The first step in the process is to install the top pivot. The top portion of the pivot is attached to the header (see *photograph 2*) and the bottom portion is attached to the top of the door itself. (See *photograph 3*.)

Now let's go back to something I mentioned in part 1 of this three-part article. Remember I mentioned that the cement case covering had a purpose? Well, let's take a look at *photograph 4*. If you look closely, you'll notice a small hole on the cover that tells us where the center of the closer spindle would be. This is useful when you are using a plum-line to make sure that the center of the top pivot, (see *photograph 5*) and the center of the bottom spindle are in line with each other. (See *photograph 6*.)

Now let's imagine that the cement case has been placed in the ground and the top pivot and the bottom spindle have been aligned. The next



5. My partner dropping a plumb line.

Continued on page 92

Continued from page 90



6. Ensure the top pivot and the closer spindle is properly aligned.



7. Ensure the cement case is completely level.



8. The case must be level on all sides.



9. The cement case 2/3 fill mark for the "quick-dry" cement.

step would be to ensure that the cement case is completely level. Take a bubble level and make sure that the cement case is level both lengthwise (see photograph 7) and widthwise. (See photograph 8.)

Once that has been done, take the floor closer and place it into the cement case. Block the cement case in its proper position and start grouting it in place by pouring in the cement. If I remember correctly, you are supposed to use a "quick dry" type of cement and fill the hole to about 2/3 the height of the cement case. (See photograph 9.) Once it has hardened a little, continue to fill it to the top with "regular cement," making sure not to get it in between the floor closer and the case.

If I was going to use a floor plate, the cement case would have to be set 1/8" inch below the floor surface so the floor plate is flush with the floor surface when finished. If you were going to use a threshold, (like I am), you would leave the cement case at surface level.

Now that a little time has passed, and the cement has started to harden, I can start to prep the floor closer for the installation of the door. But before I go any further, let me introduce you to my little friend. From here on out, it will be known as my "Tony Montana wrench." (See photograph 10.)

This is a pretty nifty little tool. It has three different functions and you will get to see all those functions in just a moment. Notice that it has two little protrusions on one end. These are made so that you can grip the adjuster disc on the floor closer to adjust the spring tension. Looking at photograph 11, you can see how the Tony Montana wrench accomplishes this task. This is definitely a two-person operation, as the springs are very strong. One person would position and turn Tony Montana wrench, while a second person is needed to step on the tool to keep it from slipping off the adjuster disc. Make sure you absolutely know what you are doing before you attempt this type of

adjustment. Those springs are pretty dangerous. If you have any doubts, take it to a factory-authorized service station to get it done.

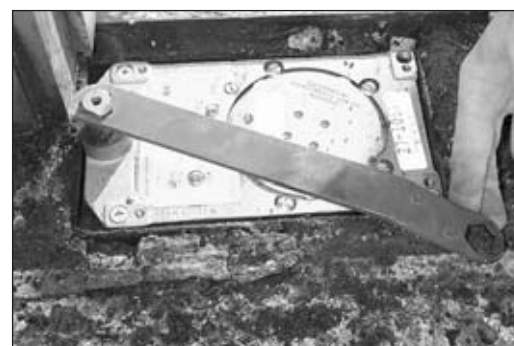
Here's where it's gonna get a little tricky. How in "tar-nations" am I gonna get the spindle of the floor closer to fit into the bottom arm knuckle? There are a few different



10. My friend the Tony Montana wrench.



11. The wrench in action.



12. My Tony Montana wrench setting the closer spindle.



13. Set spindle to the hold open position.



14. Installing a C-shaped shim onto the closer spindle.

ways (tricks) to accomplish this. Let's take a look at method #1.

If you have a floor closer that has a hold-open feature like I did, you would take your Tony Montana wrench (see *photograph 12*,) and turn the closer spindle to the hold-open position. (See *photograph 13*.) Now that the spindle is locked in this position, you will have no problem mounting the door onto the spindle.

But what if the closer doesn't have the hold-open feature? Well, then go to method #2. Adjust the "closing speed screw" on the closer to its slowest setting. Then grab your Tony Montana wrench and once again, turn



15. Here my partner is positioning the door for me.

the closer spindle to its furthest open position. As soon as you disconnect the Tony Montana wrench from the closer spindle, scramble to get the door, align it with the closer spindle, and place the door onto the closer spindle as it is slowly moving to the closed position. I am not kidding! This



16. The closer spindle aligning with the bottom arm knuckle.

is the procedure to mount the door with this type of closer. It sounds odd, but it's not as hard as you think it is.

Now, let's mosey on back to my installation. In *photograph 14*, you can see my partner attaching a shim onto the closer spindle. They are made specifically for this type of closer spindle. I now have the threshold in place, the spindle is held in the "hold-open" position, and I am ready to mount the door onto the closer spindle. In *photograph 15*, I am positioning the door onto the spindle. It's a simple matter of guiding it into

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17. Aligning the top pivot set.



18. Placing the "pivot stud" into position.



19. The pivot stud is pushed in place.

the bottom arm knuckle. (See photograph 16.)

Now that the fun part is done, the next step is to get the top pivot

together. In photograph 17, I am aligning the top pivot set and placing the "pivot stud" into position. (See photograph 18.) With the pivots aligned, the pivot stud is pushed in



20. Positioning the hex cap screw.



21. With a hex wrench fasten the bottom hex cap screw.

place. (See photograph 19.)

At this point open and close the door a few times to ensure that it is operating correctly and not rubbing against anything. While doing so, there was a little rubbing on the threshold. I just added an extra shim, and it was all good.

Once that had been accomplished and the door is adjusted and closing properly I then install the hex cap screws. (See photograph 20.) Using a hex wrench the bottom one is locked in (see photograph 21) then the top cap is locked in. (See photograph 22.)

Photograph 23, shows you the difference between a new top pivot set and a 50-year-old top pivot set.

In photograph 24, you see the third and last function of my beloved Tony Montana wrench. I use it to tighten the arm locking screw on the bottom arm knuckle. Then his second cousin, "Petey Phillips," finishes the job by fastening the arm cap. (See photograph 25.) (What are y'all laughing at... you name your cars and boats, don't ya?)

Well, that's about it. If you take the time to familiarize yourself with these few parts and steps, you're well on your way to becoming a floor closer specialist. As you have seen, these

doors are not all that hard to service and the work is very rewarding. I know that some of you will still be hesitant to try to tackle this type of

Continued on page 96

Continued from page 94



22. Fasten the top hex cap screw.

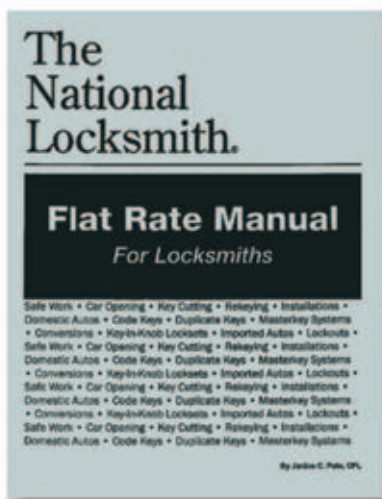


23. A new top pivot set, and a 50-year old top pivot set.



24. Tightening the arm locking screw of the bottom arm knuckle.

Flat Rate Manual



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#FRM - 1



25. Fasten the arm cap.

project, but for those of you that are willing to go for it there's a lot of profit in this type of work.

For more information on floor closers, here are a few companies to contact:

Rixson-Firemark - (704) 283-2101

Dor-O-Matic - 800-815-1517

Dorma - 800-523-8483

(717) 336-3881

Jackson - 800-533-6229

(213) 269-9271

Sentinal Door Controls -
800-327-7848 (704) 921-4627

TNL

The WHITER Side

Next Time You're In The Neighborhood



by
**Sara
Probasco**

"You're in a lousy mood this evening," I chided, trying to get a smile out of Don. No such luck.

"You would be, too, if you'd been through what I have, this morning."

I was afraid to ask, ever since he'd gotten back from a rather lengthy morning service call.

"Well, can I ask you a question?"

"What?" he retorted, not encouraging me to continue.

I did, anyhow.

"I'm curious about something." I pointed to his feet. "Why are you wearing those old beat-up tan loafers? I could have sworn you had on black work shoes when you left the shop, a while ago."

"I don't want to discuss it," Don replied glancing out the front glass at the dreary weather.

Unlike our typical spring days, this one had turned surly before sun-up and had grown increasingly worse as the day progressed. An unseasonable cold snap had ridden the coattails of a blustery rain storm, leaving the countryside shivering in a soggy mess. Into this scenario, Don had charged out to answer his first service call of the morning.

Ordinarily, the problem would have been simple enough to solve. The area narcs had seized two vehicles in a drug bust, and they required sets of keys before offering them at auction. One was an Oldsmobile, the other a Lincoln. A piece of cake, right?

Wrong.

Murphy strikes again.

According to Don, (when he finally got around to telling me) the Olds presented no real problems, except for underestimating the frigid wind. He was forced to pull his service van close enough to the vehicle to use his open door as a shield. The Lincoln was another matter. Because various locks had been changed on it, no two could be opened with the same key. Don

sighed and began impressing the ignition.

"It's too dark in here," he said to himself, scowling out at the dreary, sunless day. He stepped from the driver's door and headed to his service van to get his snake light.

That was his first mistake.

As he walked, he was examining the marks on the key, oblivious to his surroundings.

That was his second mistake.

The wind hit him as he rounded the front of the vehicle. With a gasp, he doubled into a knot and began to run. Then he stepped into a rain-filled hole. Muddy water sloshed over the top of his shoes, soaking his socks and the hems of his trousers.

At that point, his price went up.

Fortunately, Don carries the old pair of tan loafers in his van so he can change shoes when his feet get tired. Reaching the van, he stripped off his socks and shoes, squeezed the water out of his trouser hems, and stepped into the loafers bare-footed.

Just as he finished telling me this, the back door of our store opened and the store-owner from next door stuck his head in.

"Don? What in the world are you cooking, over here?" he asked. His face was screwed into a look of distaste.

"I'm glad you asked," said one of our employees. "I was about to decide if my wife had packed a rotten orange in my lunch."

"Just hush, all of you. Not a word," Don replied, holding his forefinger up as a warning. He opened the microwave and extracted a steaming pair of socks. "I was just trying to dry these out," he explained amid the guffaws.

The socks were still wet, but considerably warmer, when he pulled them on and departed for the next service call of the day.

"About twenty miles out of town," the woman had said. "We just need you to get a couple of locks off a hunter's cabin for us, so we can get in. They gave up the lease and went off with the keys. You can't miss the place."

Well, if there's anything we have learned, living in rural southwest Texas, it is:

1. People out here have no sense of distance.
2. The work required usually exceeds the work described.
3. You CAN miss the place.

Don traveled at least thirty-five miles before reaching the turn-off she had described. From there, it was only five or six more miles up a rocky road, which really wasn't a road at all, in the true sense of the word. Beneath much of the top soil in the brush country lies a shelf of rock. This makes grading a smooth road very difficult. In this case, a further problem existed: there was no top soil to grade. The rock was the road. As you may imagine, travel was bumpy and slow.

After stopping three times to open gates, Don saw a house ahead where the road seemed to end. He couldn't remember if the woman had said go through five gates or past five gates. At any rate, he had already spent more than an hour in transit. Surely this was the place.

Wrong again.

When he stopped, a man came from the house to greet him. "Are you lost?" the man asked.

"Well, that's debatable," Don replied. "Did you call for a locksmith?"

"No, sir."

"Is this the Whitely place?"

"No, sir."

"Then, I guess I'm lost."

He wasn't, really. He just hadn't gotten there yet. The man was kind enough to point the way. Although the

road had seemed to stop at that man's house, it actually passed between the house and the barn and continued through two more gates before it reached the Whitely's ranch, a few miles farther along.

"But, since you're in the neighborhood," the rancher continued, "how about making me a set of keys for that pick-up, over there? I've been meaning to have that done and just never got around to calling anybody to come out."

Promising to stop on his way back, Don proceeded to his destination. There he found knoblocks and deadbolts on the cabin doors, rather than the anticipated padlocks, and two keyless cabins, rather than one.

"But look at it this way," Don said when recounting the events, "Folks that live way off like that, recognize the value of time and travel. The Whitelys never once said to me, 'The next time you happen to be in the neighborhood...!'"

TNL

Lock Repair Manual

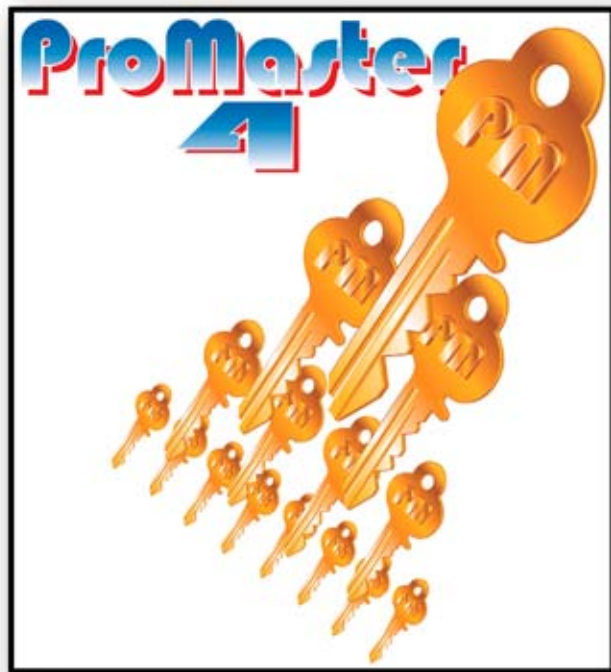


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#LRM - 1

ProMaster 4

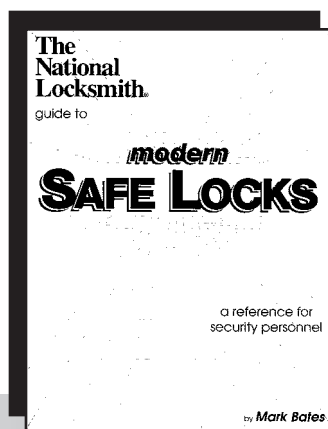


ProMaster 4 is without a doubt, the most comprehensive and easy to use master-key system management tool available anywhere in the world.

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#PM - 5



*This material was excerpted from the Mark Bates book titled **Modern Safe Locks**. The book covers combination operating and changing procedures for virtually every combination lock both mechanical and electronic, that you will encounter on a daily basis. **Modern Safe Locks** is available for purchase through **The National Locksmith**.*

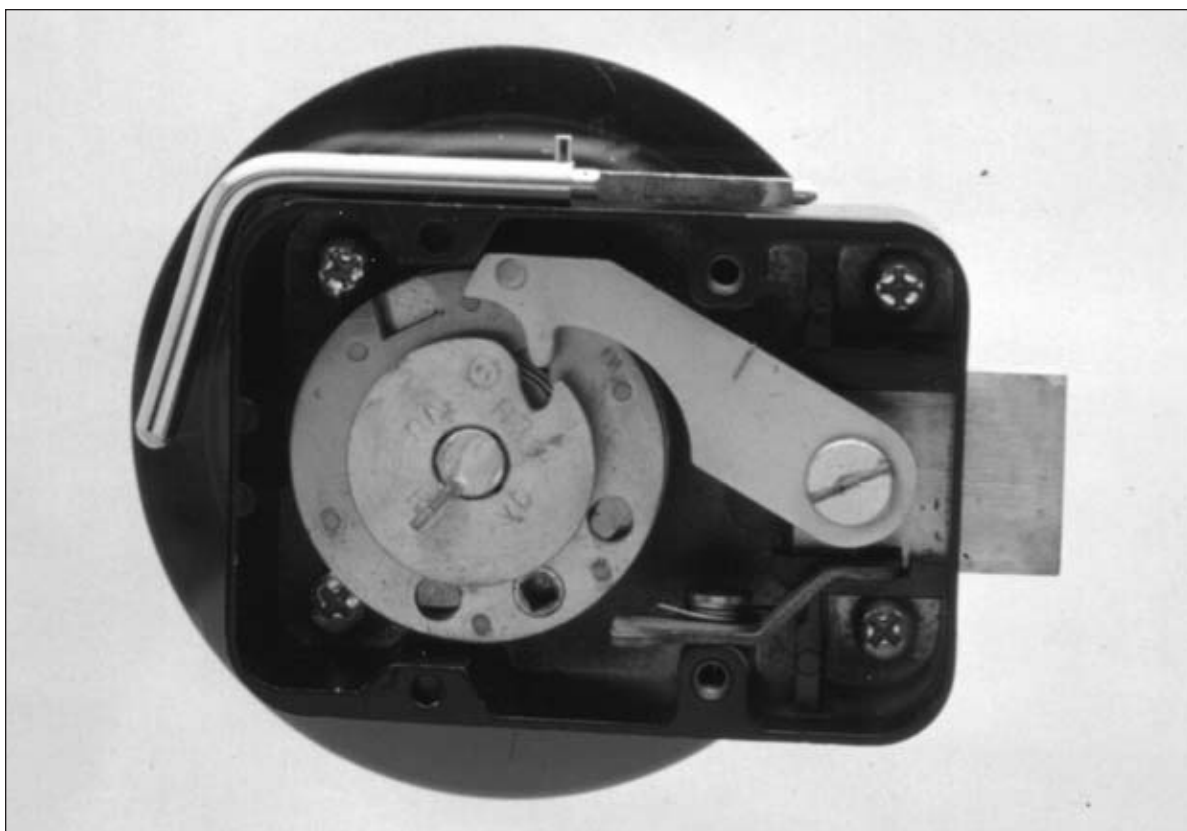
JIS

MODEL:	4100
DESCRIPTION:	Three wheel, key changeable combination safe lock. Dial is numbered 0 to 100 clockwise with a 24 number blank space. Regular change.
RATINGS:	None
FACTORY COMBINATION:	20-30-40
OPENING PROCEDURES:	WHEN SET TO A 3 NUMBER COMBINATION: a. 4XL to 20 b. 3XR to 30 c. 2XL to 40 d. 1XR to stop (1/3 of the way from 100 to 0 in blank space)
TO LOCK:	Turn dial left 4 times.
FORBIDDEN ZONE:	None due to blank space on dial.
CHANGING PROCEDURE:	WITH THE SAFE DOOR OPEN... a. Dial the existing combination to the changing index (steps <i>a</i> through <i>c</i> under "Opening Procedures"). b. Insert change key and turn it left 1/4 turn. c. Dial new combination to the changing index (steps <i>a</i> through <i>c</i> under "Opening Procedures"). d. Turn change key right 1/4 turn and remove it. e. Test combination at opening index (steps <i>a</i> through <i>d</i> under "Opening Procedures").
TOOLS NEEDED:	4100 change key
NOTES:	A nice looking and smooth operating lock from Spain.

JIS



JIS 4100



THE NIBBLER AND MULTI-PURPOSE BITS

by Richard Allen Dickey

I am always interested in a new tool, even if I already have something that does the same job. Every one has a collection of drill bits in the shop and another set in the service truck. I also bet that you would be hard pressed to find someone in our field that doesn't have a nice selection of files and

other cutting tools. So what I am about to show you may not be a necessary addition to your collection, but I will guarantee that it will make the job go a lot smoother and a whole lot faster.

The two products I am talking about are the Rodman Nibbler and the Rodman Multi-Purpose Drill Bit set.

The Rodman Nibbler is the most exciting tool I have seen in a while. I stood at the demonstration booth in Las Vegas for about 15-minutes. All kinds of ideas ran through my mind as I watched the demonstration. I just had to try one of these out for myself. The Rodman Nibbler comes in a nice metal case. The tool is packed in soft foam and includes two extra cutters and an Allen wrench needed to replace them. (See photograph 1.) Inside the cover is a complete list of instructions and the limitations of the tool.

The tool itself is powered by any drill that can provide between 1500 and 3000 rpm, in most cases, the faster the better. (See photograph 2.) In the right side of the photograph is the handle. It is used when the tool is not mounted



The Rodman Nibbler in its metal box.



A side view of the Nibbler.



The cutting path of the Nibbler is 4mm wide.

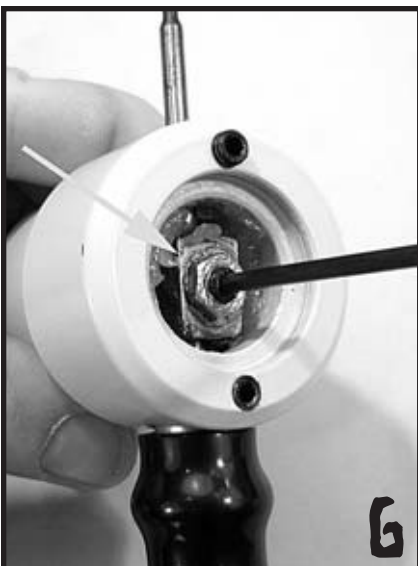
Continued from page 104



To rotate or remove the die, only one setscrew needs to be loosened.



With the die removed, the punch is visible.



Punch removal is very simple.

to a table. On the left side of the photograph is the die. The die has a punch that moves up and down inside. Let's take a closer look at the punch and die. (See *photograph 3.*)

The arrow is pointing to the cutting surface. The cut is 4mm in width. The cutting head can be turned 360° to allow the tool to cut in a forward motion, backward motion or a sideways motion. You are even able to cut a 1/2" radius. Below the arrow is a round hole. This is where the freshly cut pieces fall out of the tool.

To remove or rotate the die, you first have to loosen a setscrew. The setscrew is a typical Allen head (see *photograph 4.*) With the screw loosened, the die can be turned or removed. I removed this one to get a look at the punch. *Photograph 5,* shows the punch sticking out of the tool housing. This is also the first step in replacing the punch.

The punch can be replaced if it is worn. I asked Ted Baum, a company representative, how long a punch would last under normal use. He said that I could expect to get about six to eight hundred feet of cutting before the punch had to be replaced. He did mention that in order to get the full use out of the punch, you would have to use the tool in all four cutting positions.

When the die is turned to allow the Nibbler to cut in a different direction, the punch does not turn.

So the result is that you have a fresh surface on the punch every time you turn the die 90°. If you are able to use it in all four positions, you will get four times the life out of the punch.

On the front of the tool is a cover. A small clip is all that holds the cover in place. After removing the cover you can see what holds the punch in place. There is a setscrew and a lock nut. (See *photograph 6.*) Loosen the lock nut and then loosen the setscrew. The punch will slide out of the tool.

Replacing the punch is very simple. Don't just tighten the setscrew without loosening the lock nut first. If you do, the setscrew will probably not be tightened properly. The result could be the punch not moving up and down properly.

Now it is time to play a little.

I thought it would be fun to put the Nibbler through the paces, so I got a large piece of mild steel in the 16-gauge variety. This is the thickest mild steel that is recommended with the Nibbler. In case you are curious, 16 gauge is .0625 thick.

I used an air powered drill with a maximum of 2800 rpm to turn the nibbler. (See *photograph 7.*) This is between the 1500 to 3000 rpm range suggested by Rodman. I made sure that the nibbler was moving at full speed before I let it come into contact with the steel.



The Nibbler should be used at between 1500 and 3000 rpm. An air drill is an excellent choice but an electric drill will work just fine.

The nibbler can be used in any position, so I used it with the handle up so you could see it better.

On the first plunge the nibbler cut about three inches and didn't want to go any further. (See photograph 8.) I had to scratch my head before I remembered that I

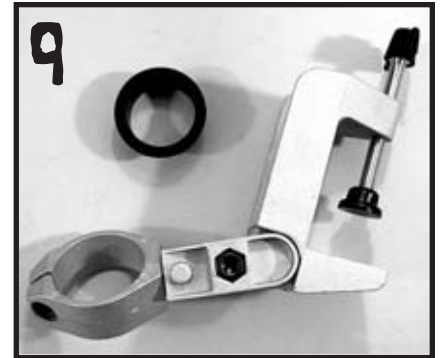
forgot to spray a little oil on the surface of the metal.

With a quick spray of WD-40, I was cutting like there was no tomorrow.

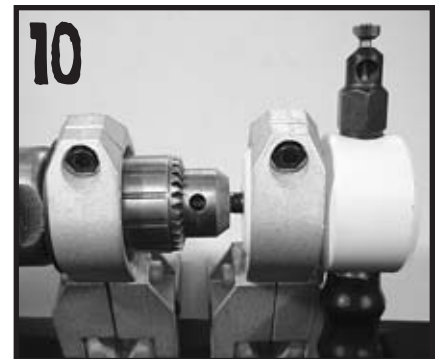
The cut made by the nibbler was fast and smooth. It is easy to change the direction of the cut



The Nibbler will work in any position. In this case it is seen with the handle up.

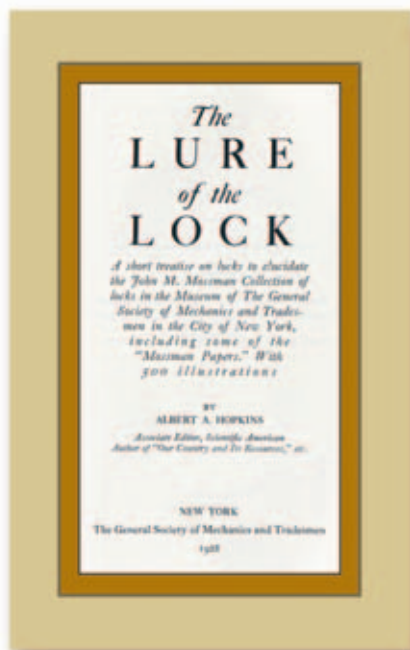


A multi position bench clamp used to hold the Nibbler or drill to a bench.



Two bench clamps used to hold the Nibbler and the drill.

Continued on page 110



The Lure of the Lock

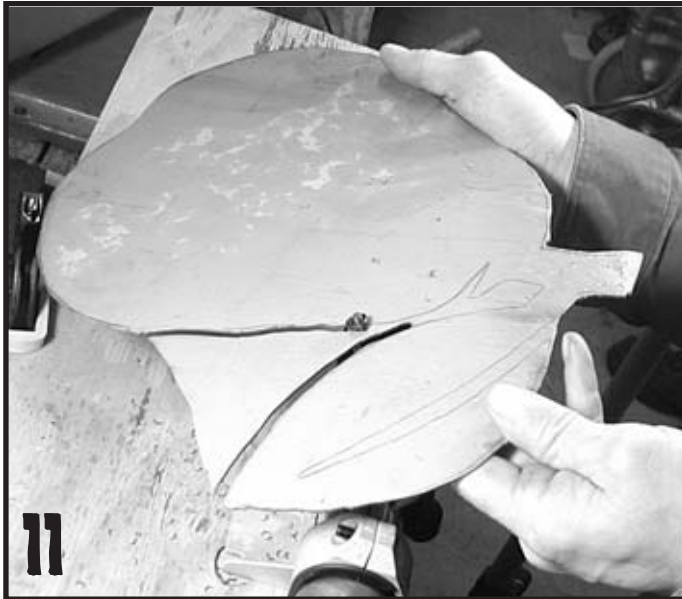
This hardcover book, compiled in 1928, features dozens and dozens of beautiful photographs on ancient through modern locks.

[CLICK HERE TO LEARN MORE](#)



#LURE

Continued from page 107



Feeding metal into the Nibbler when the Nibbler is secured to the bench is very easy.

while the cutter is moving. After making a few cuts while holding the drill and Nibbler, I decided to try a few cuts with the Nibbler mounted to the bench.

An option with the purchase of the Rodman Nibbler is the purchase of a special bench clamp

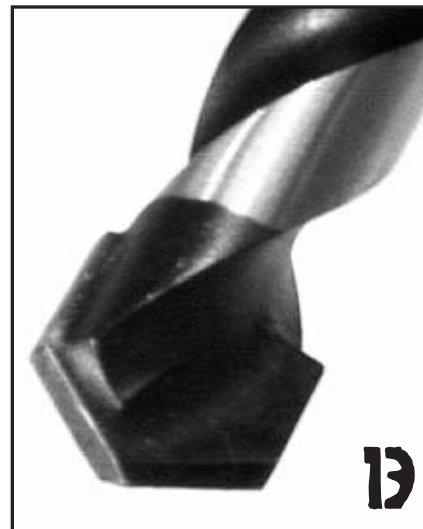
that is used to hold the Nibbler or the drill. (See photograph 9.) Two bench clamps work best when one is used for the drill and the other is used for the Nibbler. (See photograph 10.) The bench clamps can be adjusted to virtually any position.

With the Nibbler securely mounted to the bench, the metal can be fed into the Nibbler. As you can see in photograph 11, the cutting is easy to control and you can accomplish detailed work with only a little practice. I thought about all kinds of possibilities for a tool like this. Almost any installation that requires a metal cut out can be done a little faster with the Rodman Nibbler.

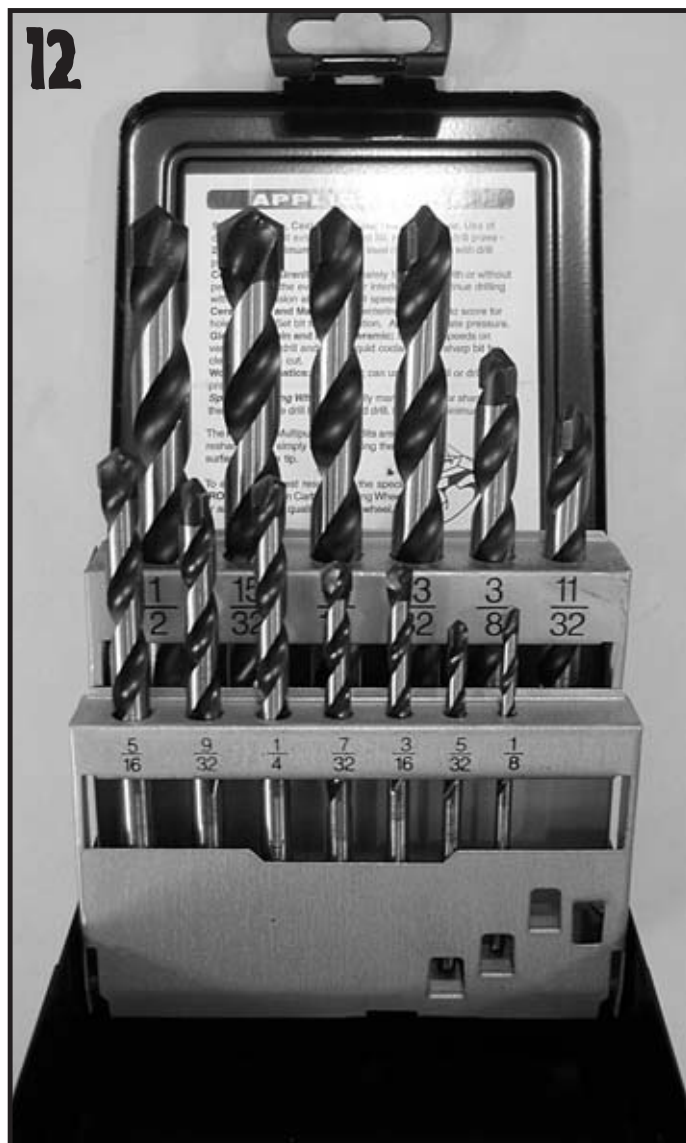
Now lets take a look at the Rodman Multi-Purpose bits. (See photograph 12.)

I have seen these bits at shows for years. However, I never had the opportunity to try them out. I really wanted a first hand experience with the bits. The Rodman multi-purpose bits are designed to drill through almost anything. A partial list of materials include: ceramic tile, granite, concrete, cast iron, marble, glass, hardened steel (hard plate) and Plexiglas.

Inside the lid of the box are directions that provide recommended speeds for different materials as well as sharpening instructions. The box I received is the 13-piece set that ranges from 1/8" to 1/2" in 32 thousandths



A Cobalt and Tungsten Carbide tip attached to a Chrome Vanadium steel shank that can take up to 1900 degrees Fahrenheit.



The Rodman multi-purpose bits.

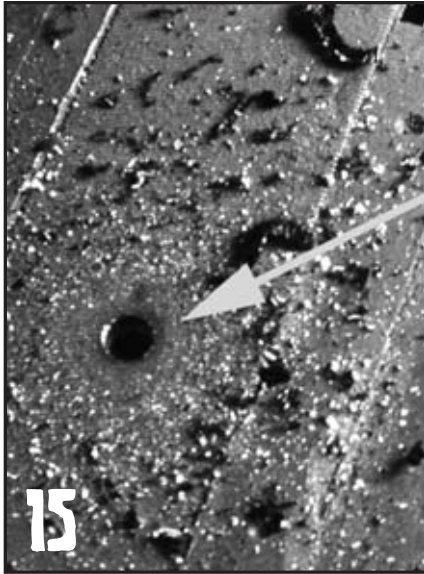


An attempt at drilling through a file with a regular bit. It barely scratched the surface.

Continued from page 110

increments.

The bits are made of a Chrome Vanadium Steel shank and a blend of Cobalt and Tungsten Carbide to resist heat. (See photograph 13.) The bonding between the shank and tip is a high-tech bond that will withstand drilling temperatures

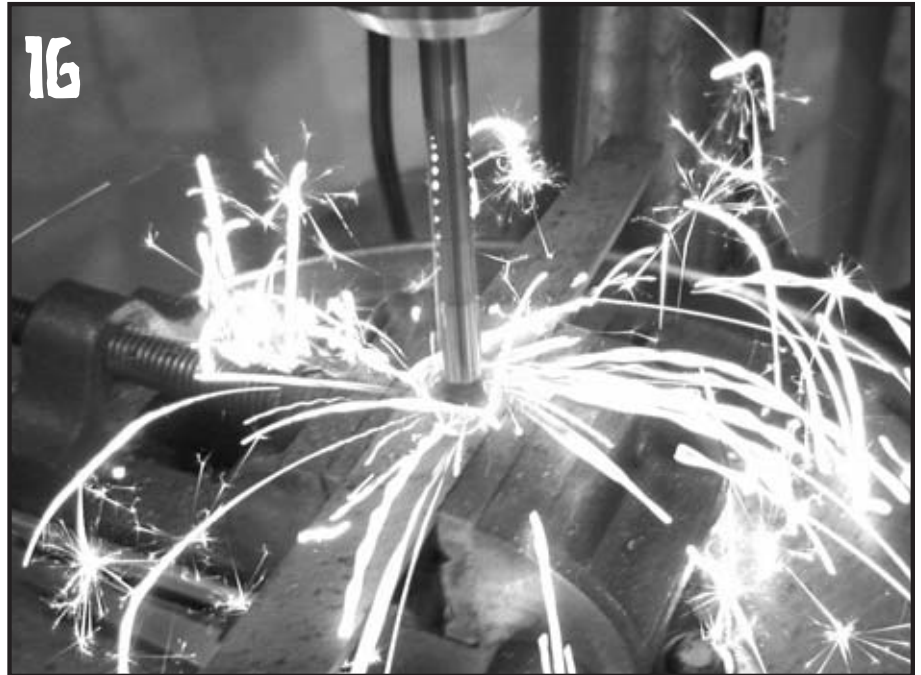


The Rodman bit punched through in only a few seconds.

of up to 1900 degrees Fahrenheit. This is important because the bits are designed for a friction cut which can produce a lot of heat. No lubricant is required when the

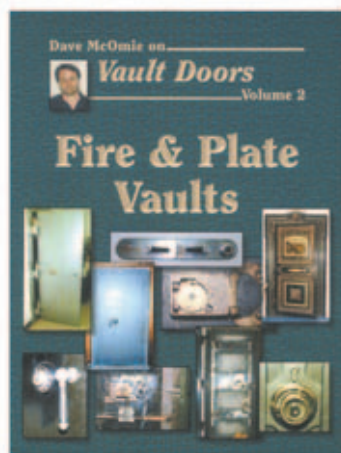
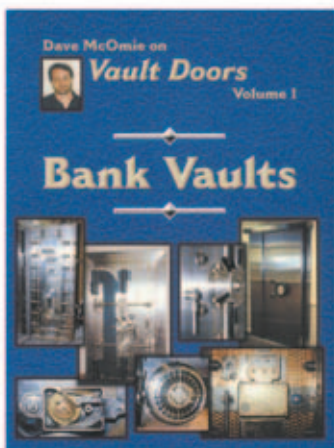
bit is hot. These things will actually glow when cutting.

If any of you have tried to drill a hole in a file with a regular drill bit, you know it is pointless. But



It's a beautiful site to see the Rodman bit in action.

Dave McOmie on Vault Doors Vol. 1 & 2



These openings can be a nightmare, but not when you bring Dave McOmie along with you on the job.

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for the sake of comparison, I had to try it anyway. I grabbed one of my standard 1/8" bits and set my drill press to 860 rpm. As soon as the bit touched the file, the bit not only dulled, the tip flattened. *Photograph 14*, shows that the bit only scratched the file.

The next step was to take a Rodman 1/8" bit and set the drill press to 2550 rpm. It worked just like at the shows. As soon as the bit touched the file it started

cutting and within about 5 seconds, was through the file. (*See photograph 15.*) I wanted to drill a couple more quick holes with the 1/8" bit but I broke it on the second hole. It was not the fault of the bit. I was pushing a small bit much too hard.

To test another bit, I grabbed an 11/32" and drilled through the first 1/8" hole. I put more than moderate pressure on this bit and was rewarded with a shower of

sparks. (*See photograph 16.*) The bit was doing its job and wasted no time cutting through the file.

Photograph 17, clearly shows the 11/32" hole in the file. Just below the hole, the arrow is pointing to the remains of the 1/8" bit. Remember, I was pushing way too hard. The bits did the job they were supposed to do. If you look at *photograph 18*, you will see that the 11/32" bit I used shows almost no wear at all.

Good tools save time and time is money. How much money your time is worth depends on how busy you are. If you seldom work on safes or things that need trimming, you probably have plenty of time on your hands. However if you are very busy or have a busy shop and tend to pay overtime to employees, it wouldn't hurt to give Rodman & Company a call.

You can contact Rodman & Company at 2823 N. San Fernando Blvd., Burbank California, 91504. Phone: 800-228-1806. Tell them Rich sent you. **INL**



The aftermath of the light show is a very clean hole.



The bit looks as good as new after cutting through a file.



AutoSmart Advisor

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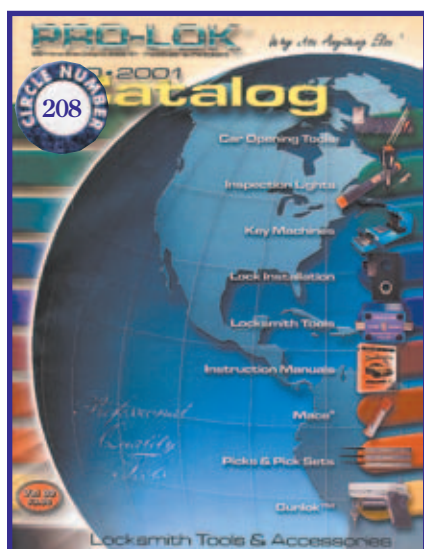
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#ASA - 2002

Literature & Brochures

PRO-LOK

PRO-LOK's 2000-2001 Catalog contains 56 pages of products that they manufacture. Each product includes a full color photo, part number and description/details of the item. Whether you're in the need for Car Opening Tools, Kits, Car Opening Manuals, Lights, Key Machines, Key Decoder, Key Hooks, Gun Locks, Installation Templates, Lock Installation Jigs, Automotive Tools, Automotive Lock Servicing Manuals, Mace, Picks, Pick Sets or Safe Bits; PRO-LOK has it all.



For more information: Phone: (714) 633-0681; Fax: (714) 633-0470.

H.L. Flake Product Catalog

Herbert L. Flake Company is a full line distributor of locksmith supplies. Established in 1912, they have placed their emphasis on sales people with lock experience, same day shipping on orders received by 4 p.m. CST and a high fill rate (free freight @ \$50, some



restrictions). They offer over 10,000 items with photos & pricing in two formats; Stock Wiz CD Catalog and www.hflake.com. Lookups include by item, by manufacturer and by category.

For more information: Phone: 800-231-4105; Fax: (713) 926-3399; E-mail: DanF@hflake.com.

Kett Tool Company Catalog

The Kett Tool Company's ten-page, full color catalog details the entire line of Kett Tool portable power saws, shears, nibblers, kits and accessories. Ideal for repairing, restoring or building, these tools work effectively with either metal or plastic. Products, including the PD-1001 straight-handled pneumatic drill, the 1020 Nibbler attachment, the K-442 16-gauge Shears, and more, are highlighted in the full line catalog of electric and pneumatic power tools. All Kett tools are lightweight and portable, designed for convenience and job-site capabilities.



For more information contact Kett Tool Company, 5055 Madison Rd., Cincinnati, OH 45227. Phone: (513) 271-0333; Fax: (513) 271-5318; E-mail: info@kett-tool.com; Web: www.kett-tool.com.

Instrument Technology Inc. Catalog

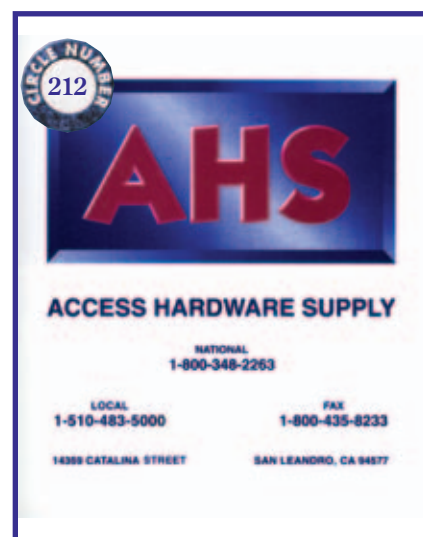
The ITI model 131060 Safescope is the ideal scope for safe penetration. Its rugged, stainless steel shaft houses computer designed optics and fiber optic illumination that provides an unequalled view. The right angle (90°) line of sight and extra wide 70° field of view allow you to see all three wheels. The Safescope has either a 10" or 25" working length to get you into the most demanding areas.



For more information: Phone: (413) 562-3606; Fax: (413) 568-9809.

Access Hardware Supply

Access Hardware Supply is dedicated to serving the needs of its customers and is proud to be one of the fastest growing wholesale distributors. Providing a full line of the highest quality locking devices, access control and security products from over 25 manufacturers, such as Adams Rite, Jackson, Schlage, Securitron and Von Duprin.



For more information: Access Hardware Supply, 14359 Catalina Street, San Leandro, CA 94577. Phone: (800) 348-2263; Fax: (800) 435-8233; Web: www.accesshardware.com.

RA-Lock Product Catalog

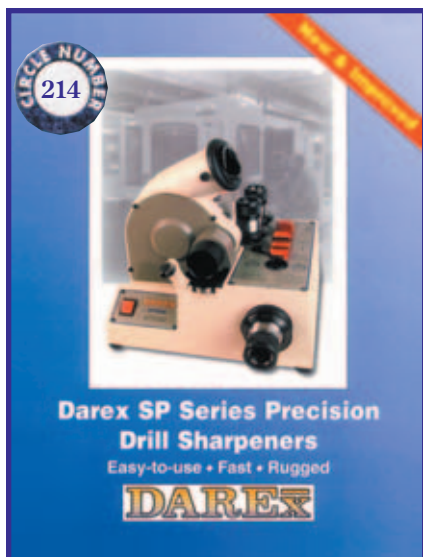
RA-Lock Company distributes specialty locks that are not readily found in most distributor catalogs. They deal in locks for all

vending equipment, commercial trucking, commercial laundry, car wash equipment and utility trailer locks. Besides distribution, they manufacture several locks for the vending, trucking and car wash industry. Whether it's high, medium or low security locks, they can supply them keyed to your specifications. They are a factory service center for Medeco, Abloy, ASSA, Abus and Sargent & Greenleaf companies.

For more information: Phone: (800) 777-6310; Fax: (972) 775-6316.

Darex Product Catalog

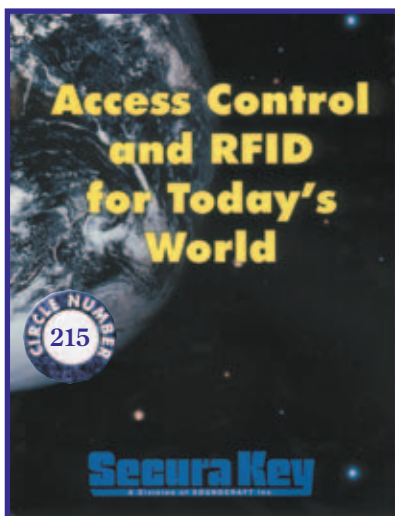
Free color information shows the complete line of Darex drill and end mill sharpeners. Darex has the cutting tool sharpener to meet your needs. They offer several simple to use sharpeners ranging in capacity and versatility. Also available are semi-automatic sharpeners as well as a convenient end mill sharpener. Prices start at \$998.00.



For more information contact Darex Corporation at (800) 547-0222; Web: www.darex.com.

Secura Key CD-ROM Catalog

Secura Key announced their new catalog on CD-ROM. Product data sheet,



configuration guides and product training presentations are included on this disk. Secura Key manufactures stand-alone access control units and multi-door systems featuring both TouchCard and proximity reader technologies.

A free copy of this new CD may be requested by Fax: (818) 882-7052.

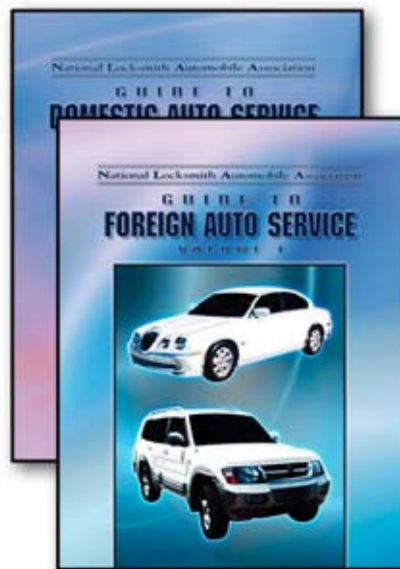
MMF Industries

MMF Industries Key Control Catalog offers a wide selection of steel, locking key cabinets with capacities for 10 to 715 keys. The catalog contains a full line of key control accessories such as key tags, record sheets, and on-person key control such as wrist coils. Also included are lock boxes, designed to hold anything from medical supplies to cash



NLAA Guide to Domestic Auto Service

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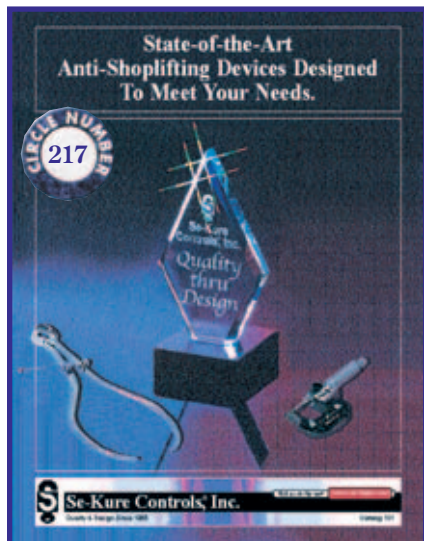


and important documents.

For a free Key Control Catalog call (800) 323-8181.

Se-Kure Controls Inc. Product Catalog

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For more information: Phone: 800-322-2435; Fax: (847) 288-9999; E-mail: SEKURE@MSN.COM.

Mayflower -Your Advanced Security Authority(tm)

Mayflower Sales, distributor of access control products, architectural hardware and safes for over 80 years presently issues two catalogs with another on the way. The Security Source Book(tm) features 224 pages of access controls and electromechanical hardware, plus parts and



related products. The Safe and Vault Source Book features all major brands of safes including safe locks and parts. With over 100 major brands in stock, Mayflower provides "in-depth" information, unparalleled selection, service and support to the locksmith.

Mayflower is located at 614 Bergen Street, Brooklyn, NY 11238. Phone: 800-221-2052; E-mail: pilgrim@mfsales.com; Web: site at <http://www.mfsales.com>.



Alarm Lock Systems Catalog

Alarm Lock Systems Inc. recently released a new full color mini-catalog. Included are detailed descriptions and pictures of Alarm Lock's extensive line of products such as, Trilogy Electronic Digital Locks, Sirenlock Panic Exit devices, PowerMag electromagnetic locks and more. The mini-catalog is a great tool for getting information and makes ordering the right products simple and easy.

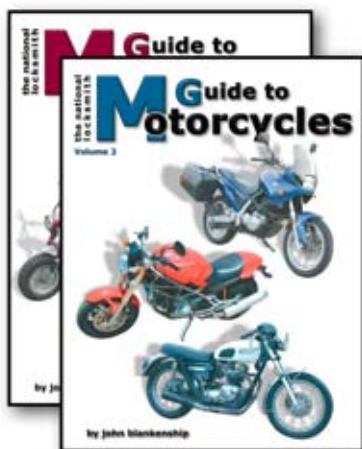
To receive a copy (part number ALA112F), call (800) 252-5625.

Enixus Trade Ltd.

Enixus industrial padlocks, lockout padlocks and number stamped padlocks are available for fast delivery. Tubular keyed cam locks are manufactured to military specs and stocked in several variations. Solid brass \$5 mortise cylinders for storefront doors are

Continued on page 118

Guide to Motorcycles Vol. 1 & 2



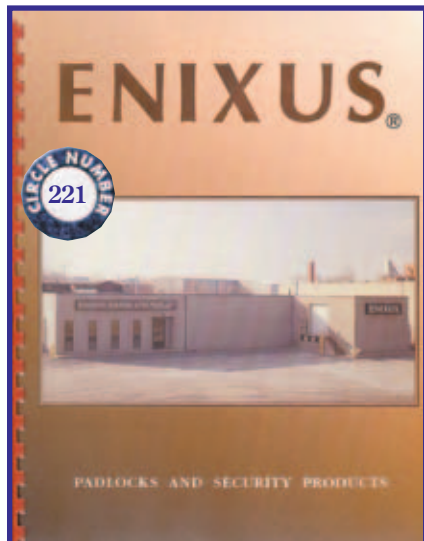
For years locksmiths have begged for a comprehensive service manual on motorcycles and its finally here!

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Continued from page 116

manufactured in popular keyways. Technical drawings to scale are available and there is no minimum order for product.



For more information: Enixus Trade Ltd., 34 Dunkirk Road, St. Catharines, Ontario, L2R1A1, Canada. Phone: (905) 682-3086.

Howard Sales

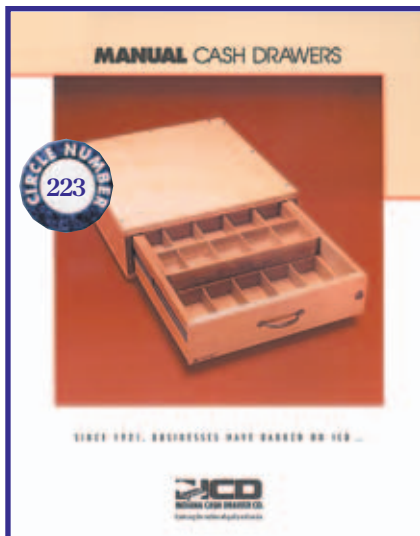
Howard Sales Company is a wholesale hardware distributor of products for trained hardware security professionals. The catalog contains products from many popular manufacturers such as Sargent & Greenleaf, Continental Instruments/Cypher Lock, Arm-A-Dor, HPC, Ilco Unican, Mas Hamilton and A-1 Security Manufacturing.



For more information: Howard Sales Company, 4625 Ripley Drive, El Paso, TX 79922. Phone: (915) 833-7733.

Indiana Cash Drawer Product Catalog

In 1921, J. Ralph Showers, Sr. patented a cash drawer, which opened automatically when a mechanical adding machine on top was operated. This was the beginning of Indiana Cash Drawer Company. Since then, ICD has led the way in industry innovations. Today, they are an international company offering the world's broadest line of cash



drawers, with an old fashioned commitment to quality.

For more information contact Indiana Cash Drawer at (800) 227-4279.

Kryptonite Flex Security Product Catalog

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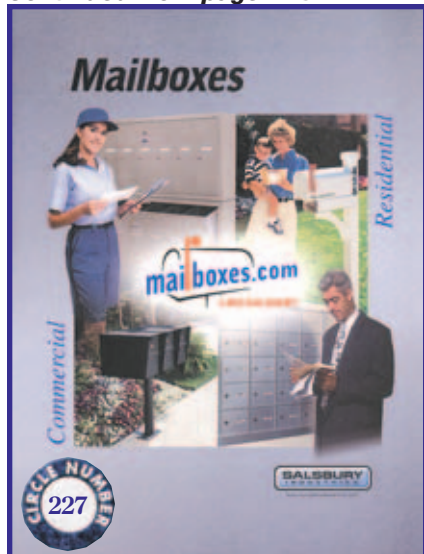


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Continued from page 118



SOSS Invisible Hinge

SOSS Invisible Hinge is the perfect hinge for most types of applications where no hardware is visible from either side when the door is closed. This provides security and a clean look. Available in many sizes ranging from light to heavy-duty, and in a spring door closer. SOSS Invisible Hinges come in satin brass (US4), polished brass (US3), or polished chrome (US26) finishes. SOSS Invisible Hinges and closers are also available for fire rated applications starting at 20 minutes to 3 hours.

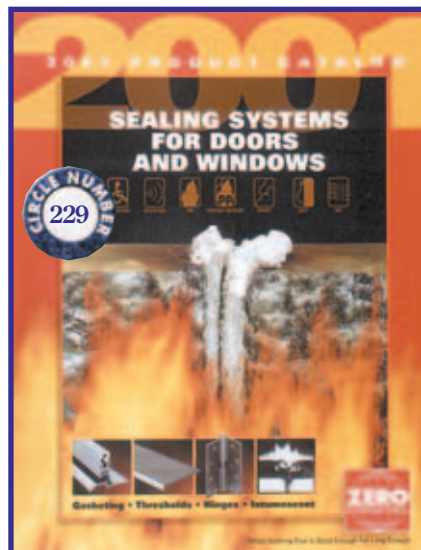


For more information: Phone: (419) 737-2324; Fax: (419) 737-2130.

Zero International

Newly expanded to 44 pages, Zero's 2001 catalog of door and window sealing solutions provides specification guidance and full size schematics for hundreds of components and integrated systems for blocking flames, smoke, air, light and sound. The new catalog highlights several additions to Zero's line of UNIGEAR and UNPIN continuous hinge systems. Intumescent product listings and applications in the 2001 catalog reflect Zero's continuing leadership in engineering and testing positive pressure solutions designed

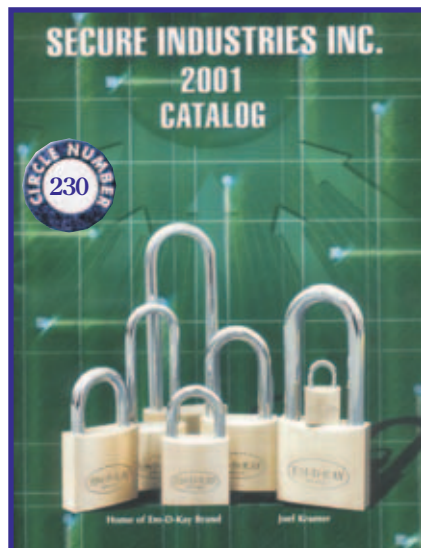
to meet the needs of the entire building team.



For more information or a catalog, contact: Zero International, 415 Concord Ave., Bronx, NY 10455. Phone: (800) 635-5335; Fax: (718) 585-3230; Web: www.zerointernational.com.

Secure Catalog

Secure Industries 2001 catalog features 88 pages packed with products from over 30 manufacturers, cross-referenced by vendor and product type. In addition to the many



vendors carried, Secure Industries is the home of the Em-D-Kay brand of solid brass padlocks. The catalog features a unique pricing structure showing the catalog price and discount structure. Prices in the catalog do not reflect the manufacturers published list prices. Secure Industries is on the web at www.secureindustry.com.

Adrian Steel 2001 Van Equipment Catalog

The 2001 Adrian Steel Commercial Van Equipment catalog features a new 3 year/36,000 Mile Product Warranty, making it the best in the industry for van and

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Securiton's New Catalog and Price List

Securiton Magnalock Corp. new 52-page color catalog provides detailed literature of the worlds finest electronic door control systems and components, including the Magnalock-electromagnetic lock; UnLatch-motorized electromagnetic strike; Touch Sense Exit Devices; UL Listed exit Delay systems and much more. The catalog combines product information and pricing previously only available in individual brochures.



The catalog is organized with each product offering. Each section is richly illustrated with photos, product features and technical data. At the end of each individual section is a complete retail price list and product description. In addition, a comprehensive alphabetic pricing guide with corresponding page numbers is included for easy reference.

Securiton's products are covered by the MagnaCare Lifetime Replacement Warranty program that provides free replacement overnight for any reason, no questions asked.

TNL

XO-7 No More Virgin

By
Dale W.
Libby,
CMS



For most in the real world, the every day safe jobs will not include working on the diabolical XO-7 electronic combination lock made by Mas-Hamilton. These combination locks are mostly relegated to Government Installations and armed forces concerns. These combination locks have an internal audit system and an anti-manipulation feature that shuts down the unit if the wrong combination is dialed three times in a row.

Another feature of these locks is its wholesale and retail price. Wholesale, depending on model and function, comes in at better than \$600.00. If you work for the government or near a Military Base, or in my case, an Army Armory, you will not see these locks much in the public sector. I have installed a couple of these, but I have never drilled one, hence I was a Mas-Hamilton Virgin, at least in the penetration department.

If you have ever dealt with the Armed Services, you will find out there are all sorts of rules and regulations that you, as a civilian, are required to do. On a happier note, we did not have to wait six months for a purchase order; the Army paid with a credit card when we finished the job. Once we found the properly authorized person and signed in as contractors, we were escorted to the Class 5 Weapons/Gun

container shown in *photograph 1*.

The lock was an XO-7 on a Mosler container. I removed the handle by popping off the plastic cover at the end of the handle and removed the 3/8" bolt. I then reversed the bolt screw to operate the handle. This was to give Little Tommy and I room to use our tools. If you look closely, you can see a grind mark at 9:00 o'clock next to the XO-7 dial ring. This repair was done when the container was originally opened to replace the existing MR-302 Mosler lock with the XO-7 lock. In fact, later you will see the two holes used to open the mechanical 302 lock. The unit still retained its GSA rating according to the Lieutenant who was in charge of the weapons locker. Hmm?

Moving right along, we slam pulled the dial with a dial puller. There is a special puller available, but since I do not do this often enough, I just used a slam puller. The Army told us that once the container was opened, it would *never* need to be repaired. Right! After pulling the dial and removing the case screws, the outside of the lock was hanging from the control cable as seen in *photograph 2*.

After cutting the cable, we were ready to install the StrongArm Mini-Rig with the Mas-Hamilton drilling base plate. A good picture of the door before drilling can be seen in *photograph 3*.

Before installing the drill rig, we had to know which way the lock was installed on the door of this class 5 unit. General rules, at least when dealing with Mosler GSA units, is that the bolt is towards the handle. If the handle was below the dial spindle, then the lock would have been mounted Vertical Down (VD). In this case, the handle was to the left of the dial spindle, and that meant that from the outside of the unit, the bolt and lock was mounted Horizontal Left (HL). The archaic way of saying this is that the lock is mounted Right Handed.

In *photograph 4*, you see Tommy (1/2 the Diabolical Duo) drilling for the little nub on the back of the lever. This nub fits into a slide that moves up and down in the lock, thus raising and lowering the locking lever. The slide is controlled by the stepper motor, which activates when the right combination is dialed. There is a relocker pin in the lock. It works on the slide. If the back cover is punched off the lock, the pin will raise and a little lever interacts with the slide and locks it in place.

The problem with this lock was that the combination failed. We would get lightening bolts and no open sign when dialing the combination. The lock was on the unit for 3 years, and worked flawlessly. The Armory had several other XO-7 locks that were still

functioning correctly. The problem was not with the users, but with the lock. They wanted the locker opened quickly any way we could. You have not really drilled hardplate until you have drilled



1. X0-7 Dial. Mosler handle has been removed and bolt reversed to give me more room to work on door.

Mosler GSA quality barrier material. The phrase "No Pain, No Gain!" is appropriate here.

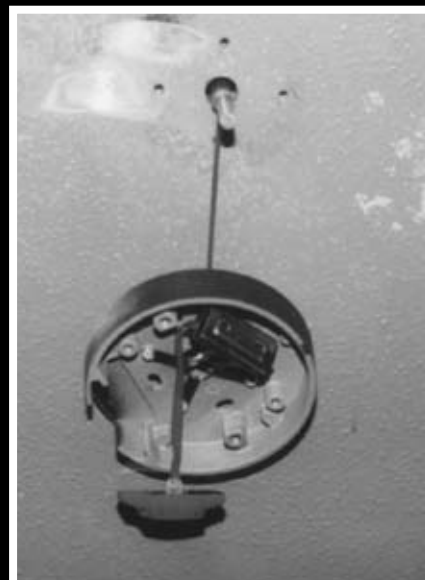
At 4:00 p.m., we were asked to leave the locker room where the safe was locked up and secured. We got a late start on it and had to return the next day to finish. The Army would not let us stay and open the unit when the Armory was closed.

Jumping ahead, we did get the unit open. After removing the large hardplate and the inner nest, you can see the lock nestled in the hardplate box as seen in *photograph 5*. This X0-7 had a 'blocker bolt' attached to the end of the combination lock bolt. Look to the right side of the lock in *photograph 5* to see the large aluminum block almost flush to the case of the X0-7. This was the last picture I could take at the site. The Lieutenant would not let us touch the lock body itself. We locked the bolt open and left. The story is not over, however.

The first attack on the lock proved to be a bust. If I had a lock to study, our first hole would have worked. Because of the price of the X0-7, I did not have one lying around to study. In *photograph 6*, the cover of the X0-7 is removed and reversed 180 degrees. The three small gears fit into the drive cam's large central gear. When you look into your hole with a borescope at the inside of the lock, you will see capacitors and

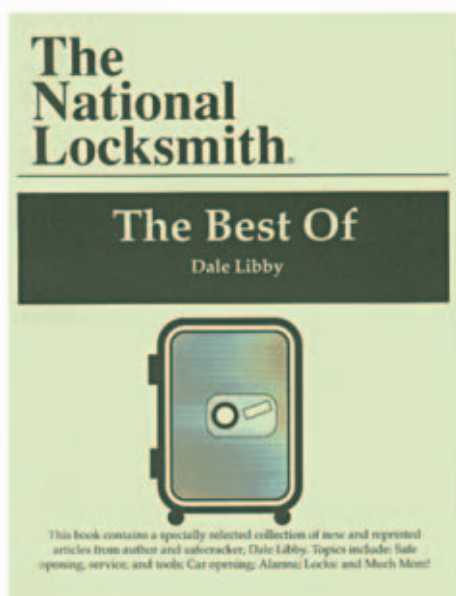
other electronic stuff, but not the lever. Here is what we did wrong.

In *photograph 7*, you see the inside of the lock. Notice on the lever at the



2. Results of pulling the dial with a slammer and removing screws prior to setting up with the StrongArm Mini-Rig.

bend, there is a little depressed area about 1/8" or so. This corresponds to a small nub on the back of the lever that fits into a hidden slide. When the correct combination is dialed into the



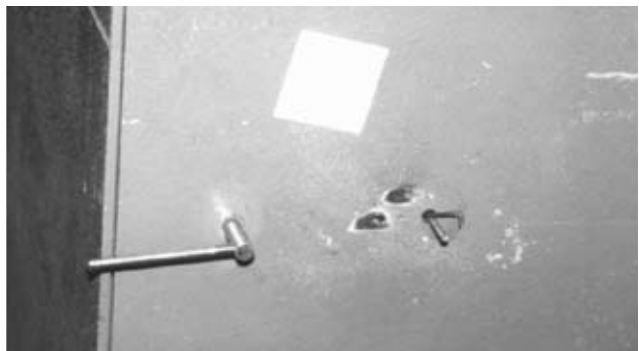
The Best of Dale Libby

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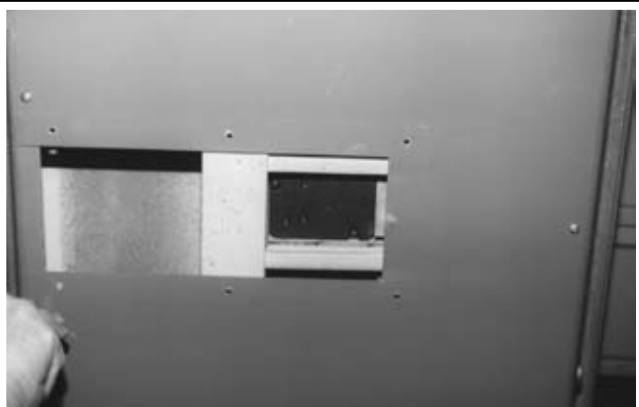
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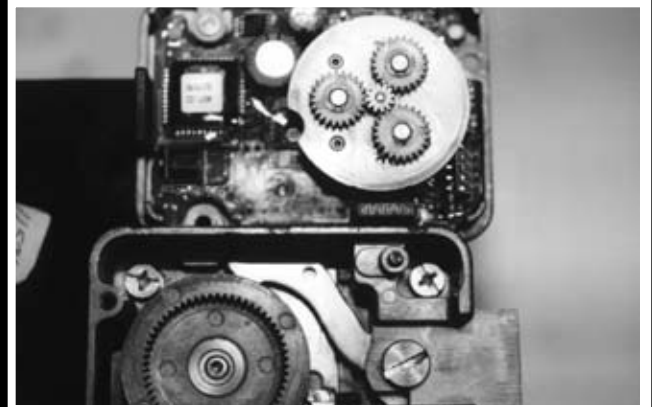
3. Door showing previous repairs and cut cable. The GSA label is still attached.



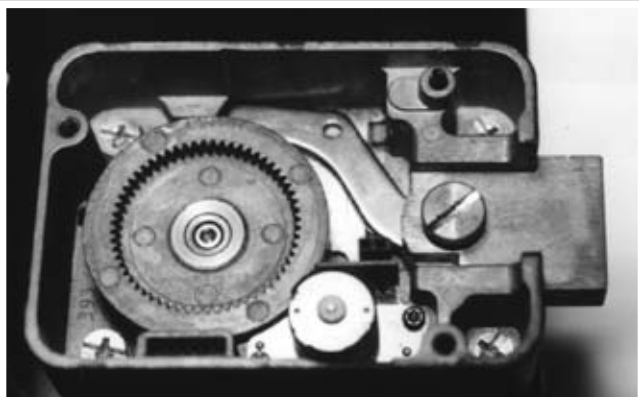
4. Little Tommy drilling for nub on lock lever. Lots of hardplate.



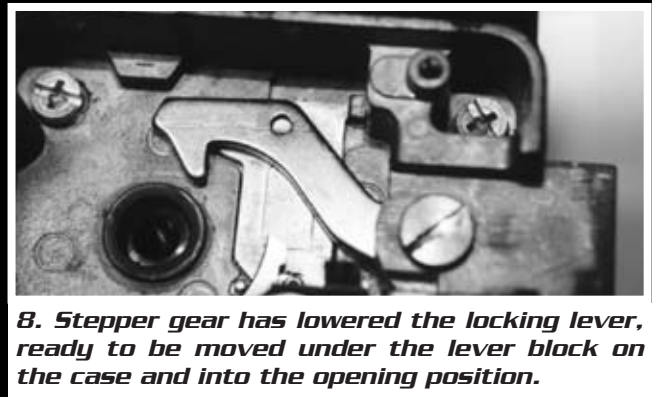
5. View of inside of safe door with hardplate nest removed.



6. Cover of the XO-7 removed. The cover is reversed 180 degrees.



7. Mounted lock showing the locking lever nub. It is located just at the bend of the lever.



8. Stepper gear has lowered the locking lever, ready to be moved under the lever block on the case and into the opening position.

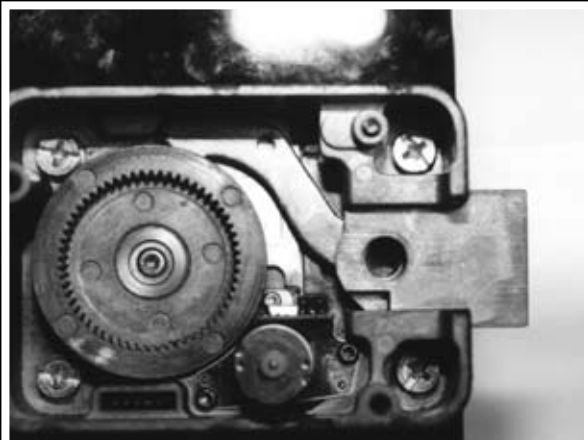


9. Lever moved into the open position by the drive cam. Now, the slot that lowers the lever can be clearly seen to the right of the lever.



10. The drive cam underside. The pointed part hooks into the nose of the lever. The gearing on the outside is for the timing of the stepper motor gear.

processor, a small stepper motor pulls the lever down, and as it moves down, it also moves towards the drive cam a little. When the drive cam is turned, it



11. Alternate method of opening is to drill for the lever screw. Here the screw has been removed.

catches the nose of the lever and pulls the bolt back.

The theory of this opening technique is to drill into the lock case at the nub site and drill off the nub. After removing the nub, the lever can be forced down into the drive cam and the lock will open. *Photograph 8*, shows the lowered lever ready to be moved

under the lever block on the lock case and into the opening location. *Photograph 9*, shows the lever moved into the open location by the drive cam.

Now, the slot that lowers the lever can be seen clearly to the right of the opening lever. When the dial is turned to throw the locking bolt, the lever enters the slide and rises up to the locked position.

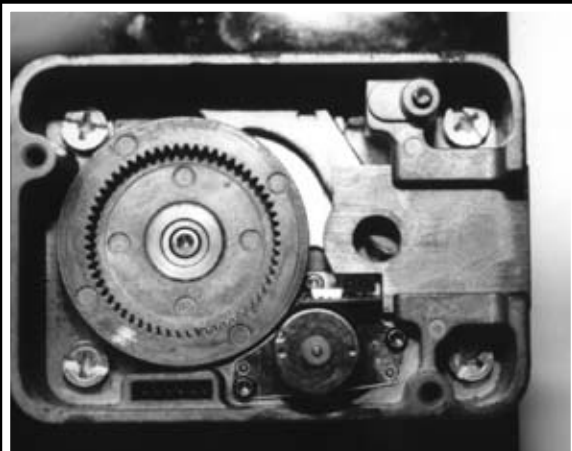
Photograph 10, shows the large underside of the drive cam. The pointed part of the inner cam catches the nose of the lever and pulls the lever and bolt into the open position.

What went wrong? The most important part of drilling this lock is to stop when you reach the case of the lock. The case is cast metal and drills easily.

After drilling through the hardplate, it is important to stop and take it easy. You have less than 1/8" to drill

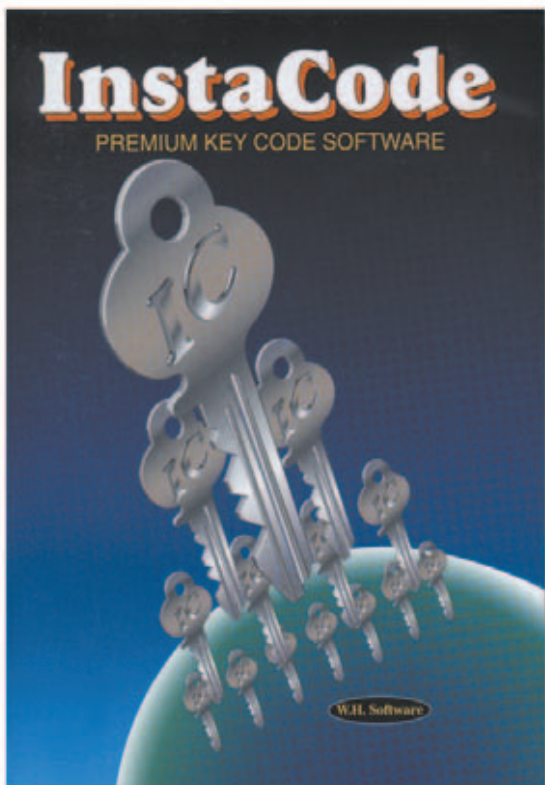
through the lock case until you hit the nub and slide. By the time we were through the hardplate, we were also into the lock case. We had drilled through the lock case and the nub and the lever. We wondered how come the drilling became so easy.

Inserting a Hawkeye borescope, we observed the innards of the X0-7 lock. We could see the capacitors, the



12. With the screw drilled, the bolt can be pushed into the lock case.

electronics, and the large drive cam. That was all. I figured that we had drilled through the lever, but I was not



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sure. I realized this only after playing with the mounted lock. We were not allowed the pleasure of checking the work on site at the Armory. We could have tried to probe the lever down if we had known where the lever was. A small right-angled tool could have been used to start the lever downward. Rather upset, we tried the second attack mode which proved to open the safe/locker quickly.

I polled a number of safecrackers and they all said that the second, or lever screw attack was the one they used for the X0-7. It never failed. There is a location on the StrongArm Mini-Rig Mas-Hamilton mounting plate to attack the lever screw. We moved the drill rig to a new position on the plate and used a 5/16" drill bit through the hardplate to the lever screw. The screw is stainless steel, but brass in color, so it was easy to tell when we were there.

We then changed to a 1/4" drill bit to drill the stainless steel screw that held the lever in place. *Photograph 11*, shows the mounted lock with the lever screw removed. This will be like drilling out the screw. After drilling the screw out, I put my borescope in the hole. The only thing I saw was the remainder of the lever screw head. The bolt was easily probed back. The end of the bolt is almost flush with the lock case of the X0-7. In the safe, the blocker bolt would have been attached to the end of the combination lock bolt. The head of the screw did not interfere with the movement of the bolt.

Photograph 12, shows the lever in the locked position with the bolt pushed back into the lock case. Be warned, there is a strong spring detent ball bearing to overcome before the bolt slides into the lock. If, for some reason you cannot probe the bolt into the lock, then an additional hole must be drilled 1-1/2" to the left of your existing hole. Through this hole you can probe the bolt and the blocker bolt to the open position.

Nevertheless, now I will not be afraid to drill open an X0-7. The first one was hard, but the next will be easier. I have already made my mistakes and learned from them. By the way, the Army just called and wants the same container repaired with a mechanical lock. Go figure!

Drill X0-7's and prosper.

The 2001 Pontiac Aztec

by Tom Seroogy &
Randy Mize

Not too much can be said for the new 2001 Pontiac Aztec, at least from an aesthetic perspective. A cross between a mini-van, mini-SUV and the Chevrolet Vega, you might say this is one ugly vehicle. Rivalled only by Volkswagen's "Thing", apparently someone within GM took what was probably a good idea and beat it with an ugly-stick. (See photograph 1.)

In the new wave of transponder-equipped vehicles, the Aztec, utilizing GM's PKIII security system, is fully field-serviceable. And although the locks are familiar and easy to service, except for the few noted exceptions, the Huf produced locks and lock components are available through dealer channels only.

As a single key car, the Aztec employs GM's Corporate head key blank with an embedded transponder, and the CSS or Component Set Strategy column. Although Huf produces the original keys, the Ilco B99PT or Jet B99PHT can be used. (See photograph 2.)



2

Although Huf produces this PKIII, GM Corporate Head key, aftermarket keys are available.

Still, for all of its visual inadequacies, the one saving grace of the Aztec is that it is extremely easy to service. With minor differences, the ignition lock service follows standard CSS column procedures; and the door and tailgate locks are separate from the handles, allowing for fast, easy removal and service.

Opening

Door locks appear on both the driver and passenger doors. Opening can be accomplished in a number of ways,



1

The 2001 Aztec.

including picking or impressioning. If using opening tools, the lock button linkage rod is easily accessible.

Wedge the door open approximately 6 to 8 inches from the edge of the door. (See photograph 3.) Using a slide lock tool, locate the lock button rod and unlock the door. As the lock button rod is in close proximity to the latch linkage rod, the lock linkage rod may be positioned as either the top or bottom rod, depending on where the slide lock tool is placed in the door. (See photograph 4.)

Continued on page 130



3

Insert door wedge and slide lock tool.

Continued from page 128



4 Grasp lock linkage to unlock door.



5 Aztek uses the familiar GM CSS column.

Ignition Lock

Although using the familiar CSS column, the Aztek does present a few minor differences for proper disassembly. (See *photograph 5*.) Like other versions of this column that are used in GM trucks and vans, the upper shroud cannot be removed without first removing the lock cylinder. Unlike other versions of this column, it is not necessary to remove the tilt lever, and the knob portion of the cylinder can be removed and replaced without damaging the lock or knob. This single feature allows not only for fast removal of the upper shroud, it is an open door to easily picking and removing the lock cylinder.

Begin by using a #2 Phillips screwdriver to remove the shroud's mounting screws. (See *photograph 6*.) These screws are unusually long. (See *photograph 7*.)

Hooks or tabs holding the shroud halves together can be found at the back of the shroud pieces. Carefully drop the lower shroud, making sure that these tabs are disengaged before removing the shroud.

With the lower shroud removed, the screws holding the upper shroud to the column can be accessed. Unlike other versions of this column, the upper shroud uses T20 Torx mounting bolts and not the usual E5 inverted Torx. (See *photograph 8*.)

By design the upper shroud passes behind the knob of the lock cylinder and cannot be completely removed without first removing the lock cylinder. (See *photograph 9*.) On the other hand, the retainer for removing the lock cylinder is hidden beneath the upper shroud. This presents an interesting problem for locksmiths and technicians wishing to service this lock.

Fortunately, unlike other columns of this type, the knob from the lock cylinder can be removed and replaced. To remove the lock cylinder knob, gently use a large straight blade screwdriver and pry the knob off of the cylinder. Carefully work the perimeter of the knob so that it can be reused. (See *photograph 10*.) Also see the Aztek Ignition Lock sidebar or more information on the ignition lock cylinder.)

With the upper shroud removed the lock housing is exposed. And, although serviced in a similar manner to other CSS lock housings, the housing on the Aztek is completely different in shape and form.

Because cylinder removal requires that the lock be



6 Remove the lower shroud mounting screws.



7 The screws on this column are unusually long.

turned to the START/CRANK position, it is recommended that the battery be disconnected in order to prevent damage to the vehicle's starter.

As an alternative to disconnecting the battery, on Aztek's equipped with an automatic transmission, the vehicle's neutral safety switch can be engaged to disable the START/CRANK function. To accomplish this, first chock the wheels and set the emergency brakes to prevent vehicle movement during service. Rotate the lock cylinder to the ON position and move the shifter to the neutral or drive position.

8

The upper shroud screws are T15 Torx. The one shown here is located on the ignition side of the column, just beside the Theft Deterrent Module or TDM.



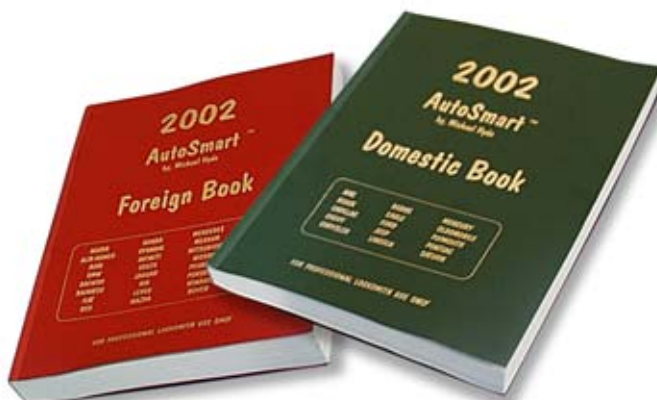
9 By design, the upper shroud cannot be removed without first removing the lock cylinder.

With the starter disabled, the lock cylinder can now be removed. Use a key, pick the lock or drill the lock's sidebar to rotate the lock cylinder to the START/CRANK position. (See the Aztek Ignition Lock sidebar for more information on picking this lock.)

If a working key is not used to turn the lock, to prevent costly damage to the buzzer actuator switch, cut a blank key with all 4 depths and insert it into the lock cylinder before turning past the ON position. If a key is not available, insert a pick and raise the switch to clear the shearline of the lock cylinder.

Once the lock is turned to the START/CRANK position, insert a probe into the retainer access hole and depress the lock retainer. The lock can now be removed from the lock housing. (See photograph 11.)

If it is necessary to replace the lock, original cylinders are available through dealers only. (See photograph 12.) Unfortunately, the aftermarket service tumblers and springs from Strattec and BWD will not properly work. (See photograph 13.) For an aftermarket replacement, try using the Strattec #704600 or 704601 (push button). Although designed for use in Passlock or MRD equipped GM's, they will operate using the original corporate head key.



2002 AutoSmart™

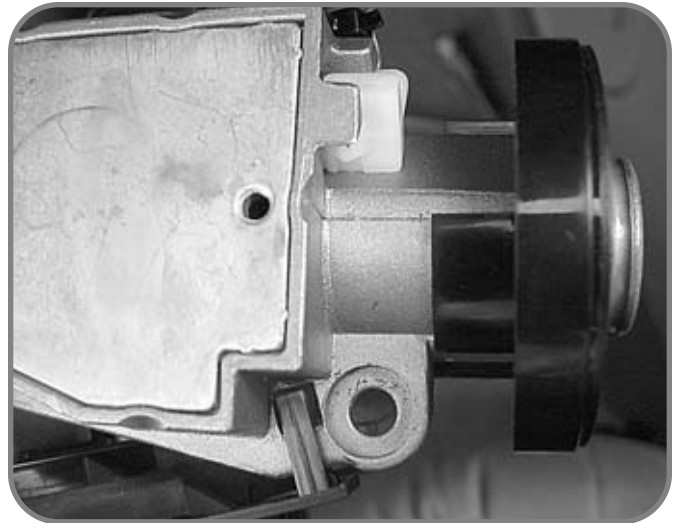
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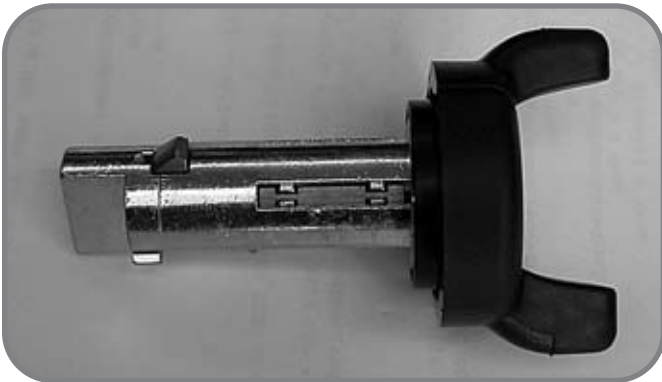
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10 Carefully removing the knob from the lock cylinder allows the upper shroud to be removed.



11 Turn the lock to **START/CRANK**, insert a probe into the lock retainer access hole, depress the lock retainer and remove the lock cylinder.



12 Aztek ignition cylinder is apparent. The original lock is available through dealers only. Note the unique sidebar design. See the Aztek Ignition Lock sidebar for more information on this lock.



13 Although similar, neither Strattec nor BWD aftermarket tumblers will work properly in Aztek's original ignition lock.



14 In an emergency, the standard, smaller knobbed CSS ignition lock and the smaller PKIII key blanks can be substituted for the larger knobbed Aztek lock.



15 The Aztek door panel holds no surprises and is easy to remove.

Continued on page 134

Continued from page 132

In an emergency, the smaller knobbed cylinders, Strattec #702671 and #702672 (push button or BWD #LC1353 and #LC1354 push button), and PKIII key blanks, Strattec #598936 (75 groove) or #599260 (88 groove) can be substituted. (See photograph 14.)

Door Lock

Removing the door lock is straightforward and simple. No special tools are required. (See photograph 15.)

Using a #3 Phillips screwdriver, remove the three bolts that hold the panel to the door. Then use a panel/trim removal tool to loosen the door panel from the door. (See photograph 16.) Disconnect any connectors and remove the panel. When replacing the panel, take note as each screw is of a different length. (See photograph 17.)

Peeling back the plastic vapor barrier, the lock is easily accessed. Simply remove the door clip and slide the lock out the front of the door. (See photograph 18.) Disconnect the lock linkage rod clip to complete the removal. (See photograph 19.)

Once removed, the tumblers can be view from the drain hole at the bottom of the lock. (See photograph 20.) The door locks and components are available through dealers only. There are no known substitutions at this time. When disassembling the lock, be careful not to lose the detent ball bearing and spring found at the front of the lock. Also note that there are seven opposing wafers and no sidebar. (See photograph 21.)

Tailgate Lock

Like the door locks, the tailgate lock is not part of a handle assembly and is relatively easy to remove and service. (See photograph 22.)

Begin tailgate lock removal by first opening the tailgate by using a key or picking the tailgate lock, or by hitting the release from inside the vehicle. Unique to the Aztek, the window is latched to the tailgate by two electronically controlled latches located at the ends of the tailgate, instead of the typical single piece center mounted mechanical latch. (See photograph 23.)

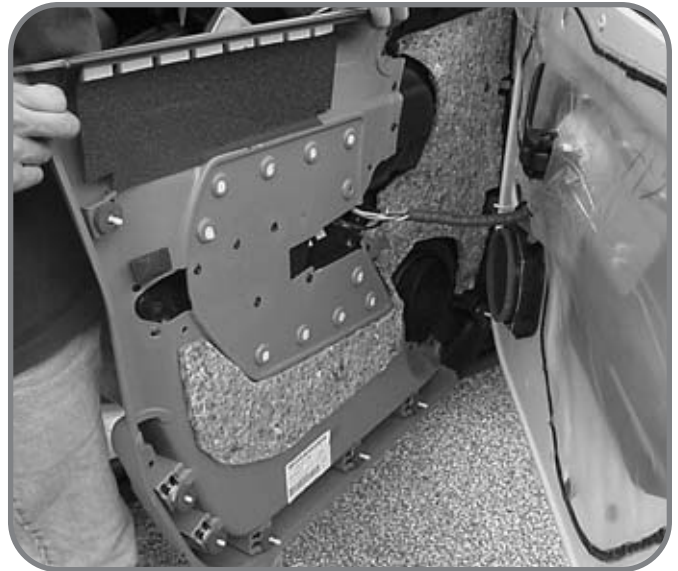
With the tailgate lowered, use a #2 Phillips screwdriver to remove the panel screws from each corner of the panel. (See photograph 24.)

Use the same screwdriver to remove the two #2 Phillips screws that hold the latch release handle in place. (See photograph 25.)

Use a panel/trim removal tool to lift the panel from the back of the tailgate. (See photograph 26.)

Aside from the few screws, the tailgate panel is held to the tailgate via plastic clips. (See photograph 27.) Be careful not to break or lose these clips while lifting the panel. (See photograph 28.)

With the panel removed, the window latch can be seen mounted to the corner surface of the tailgate. Note the wire loop attached to the side of the latch. This wire is used as an emergency release should power to the latches not be available and the handle inoperative. During normal operation, the releases for the latches are hidden behind the tailgate trim panel. Should they need to be used, it is necessary to pull as much of the panel away from the door as possible to access the releases. (See photograph 29.)



16 Remove the door panel.



17 When reassembling the door panel, take note as each door panel screw is of a different length.



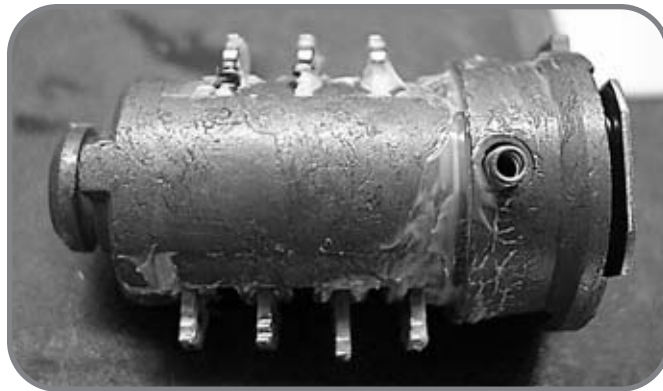
18
A simple clip holds the door lock in place.



19
With the lock removed, disconnect it from the linkage rod.

20

All the door lock tumblers can be viewed through the drain hole.



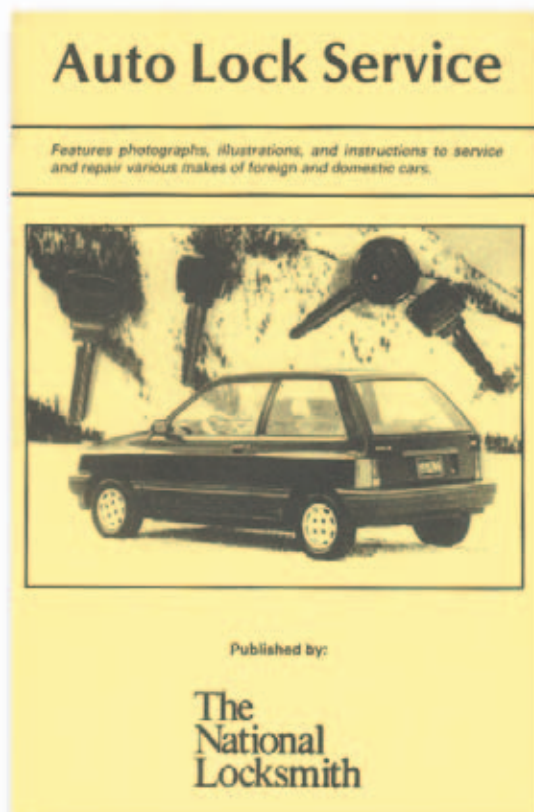
21 This lock is available through dealers only.

22

Like the door locks, the tailgate lock is not part of a handle and is easily removed for service.



23 Open the tailgate to begin lock removal.

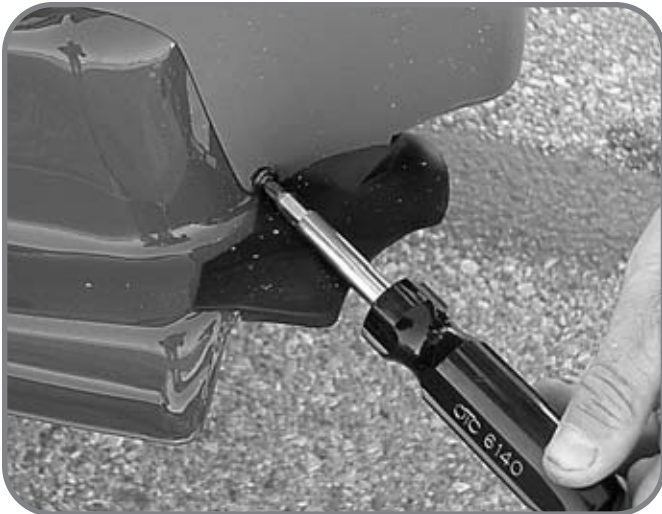


Auto Lock Service

Covers opening and service techniques.

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24 Remove the trim panel screws.



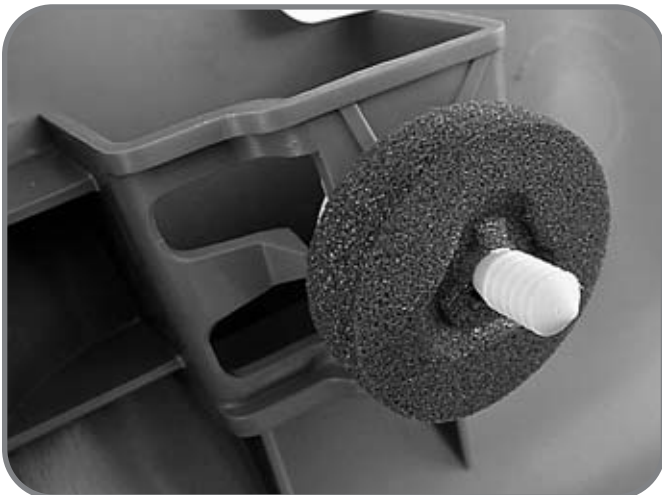
25 Remove the inside latch handle.



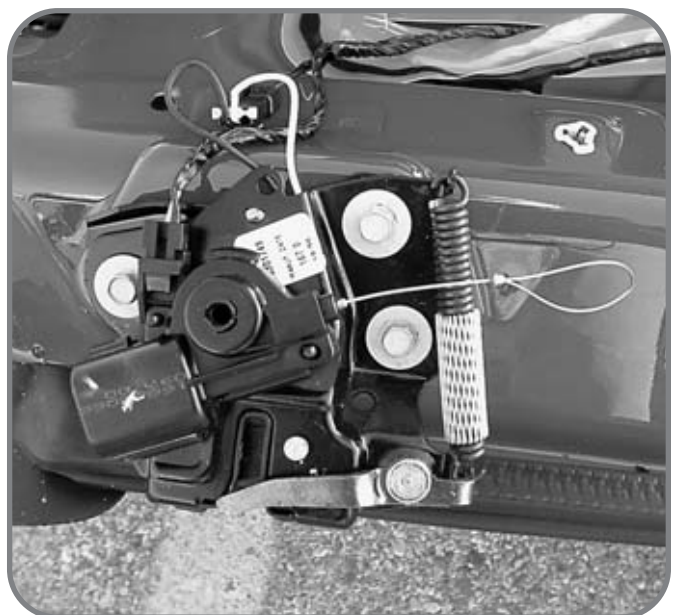
26 Lift and remove the panel from the door.



27 Except for a few screws, the tailgate panel is held to the door via clips.



28 Be careful not to break or lose these panel clips during trim panel removal.



29 Two electronically controlled window latches are attached to each corner of the tailgate. Each latch includes an emergency release wire.

Continued from page 136

With the panel removed, peel back the plastic vapor barrier to gain access to the tailgate lock. Note that there is no linkage rods attached to the lock, it is simply an electronic switch that is used to activate the window latches. A single door clip holds the lock in place. (See photograph 30.)

Remove the door clip, and then disconnect the lock switch's electrical connector. (See photograph 31.) The tailgate lock can now be removed for service. (See photograph 32.) A view of the bottom of the lock shows all seven tumblers within the lock. (See photograph 33.)

Like the door locks, the tailgate lock is available through dealers only. There are no known substitutions.

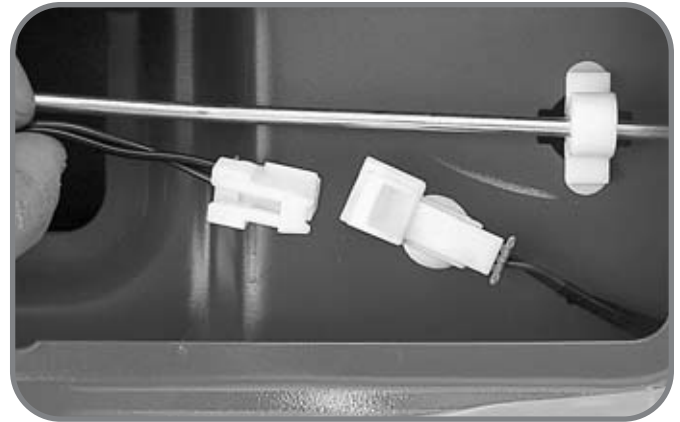
Glove Box Lock

Servicing the glove box lock on the Aztek is as simple as servicing the locks on the rest of the vehicle. (See photograph 34.)

To remove, open the glove box and remove the two #2 Phillips screws. (See photograph 35.)

30

A single door clip holds the tailgate lock in place.



31 Disconnect the lock's connector to complete lock removal.



32 The tailgate lock removed and ready for service.



33 All the tumblers can be seen through the drain hole in the bottom of the lock.

34

Aztek's pull handle glove box lock.



35

Two #2 Phillips screws hold the glove box handle in place.

Pick the lock to the locked position, depress the lock retainer and remove the plug. (See photograph 36.)

Programming Procedures

Several important points need to be made before attempting to duplicate or generate new keys for the Aztek.

- When performing on board programming procedures, only a Master key can be used to open the programming mode.
- Only a total of ten keys can be programmed into vehicles equipped with the PKIII system.
- When duplicating, if ten keys have already programmed into the vehicle, the attempt to add another key will fail. No existing keys will be deleted or removed from the system.
- When generating new keys using the on board method, all existing keys are deleted or removed from the system. Any keys that were previously in the system can be added again using the on board duplicating method.
- Finally, when duplicating, two methods are available - Cloning and actual duplicating.

Cloning requires the use of aftermarket READ/WRITE keys and either Jets ETD-1 or Ilco's RW2 to clone an existing key. When using this method, the duplicated key is an exact clone or duplicate of the original, the transponder code and all. The vehicle's PKIII system will not be able to determine whether the original or duplicated key is being used.

Actual duplicating requires either aftermarket or original equipment READ only keys. Each duplicated key will have it's own unique transponder code. The vehicle's PKIII system is capable of discerning the difference between this key and others that have been programmed into the vehicle.

For the purposes of the article, only actual programming is covered. For more information on cloning using Jet's ETD-1 or Ilco's RW2 see a Jet or Ilco dealer, or see Saber Tool's transponder web site (www.sabertool.com) on cloning keys.

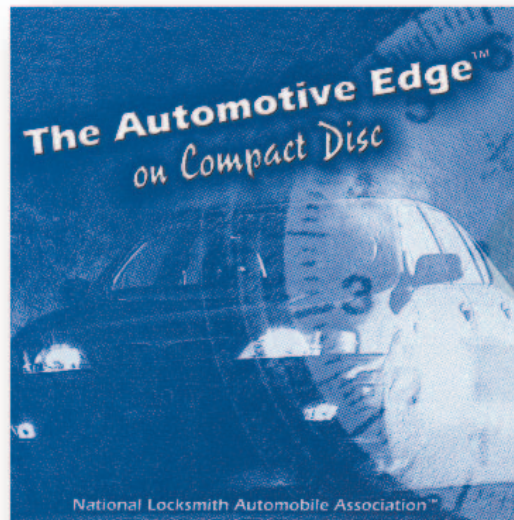
Key Duplication

1. Duplicate an original working Master key onto a non-programmed transponder key.
2. Insert the original working Master key into the ignition lock and turn to the ON position. The SECURITY light will light for about 2 to 3 seconds.
3. When the SECURITY light goes out, turn the key to the OFF position and remove the original key.
4. Insert the duplicated key and turn the ignition lock to the ON position. The SECURITY lock will light for about 2 to 3 seconds. When the light goes out, the duplicated key is programmed.

Key Generation

1. Generate a working mechanical key and duplicate the biting onto a non-programmed Master key.
2. Insert the Master key into the ignition lock and turn to the ON position. The SECURITY light will light solid for about 10 minutes.
3. When the SECURITY light goes out, turn the ignition lock to the OFF position.
4. Within 5 seconds, turn the ignition lock back to the ON position. The SECURITY light will light solid for about 10 minutes.

AutoEdge



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#AE - CD

Technical Information

Lock Manufacturer: Huf
Key System: GM 10-Cut
Security: GM PKIII
Key Codes: H0001- H3988
Key Blanks: Original - Dealer Only
 Ilco - B99-PT
 Jet - B99-PHT

Key Machines

HPC 1200CM: CF215

Pak-A-Punch: PAK-G1

Curtis: Cam GM6/Carriage GM6A

	<u>Space</u>	<u>Depth</u>
Framon: Lay tip stop clip against left side of vice, tip stop key against clip. Set first cut at .216. Cut-to Cut: .092". See chart to the right for depths.	1	1.034" .315"
	2	.942" .290"
	3	.850: .265"
	4	.757" .240"

Spacing & Depth

Spacing as gauged from tip.

5	.665"
6	.573"
7	.481"

5. When the SECURITY light goes out, repeat steps 4 and 5. Wait for the SECURITY light to go out for the third time. Programming the key is complete.

Manufactured by Huf, the Pontiac Aztek ignition lock has some unique features that both aid and challenge the locksmith in the servicing of the lock. Following are some of these features.

Removing Knob

Unlike CSS cylinders designed and built by other manufactures, the knob portion of the Aztek ignition lock can be removed and replaced without permanently damaging the lock. Held on by an internal expanding snap ring, by prying around the perimeter the knob with a large flat blade screwdriver, the knob can be gradually worked off of the cylinder. (See *photograph 37.*)

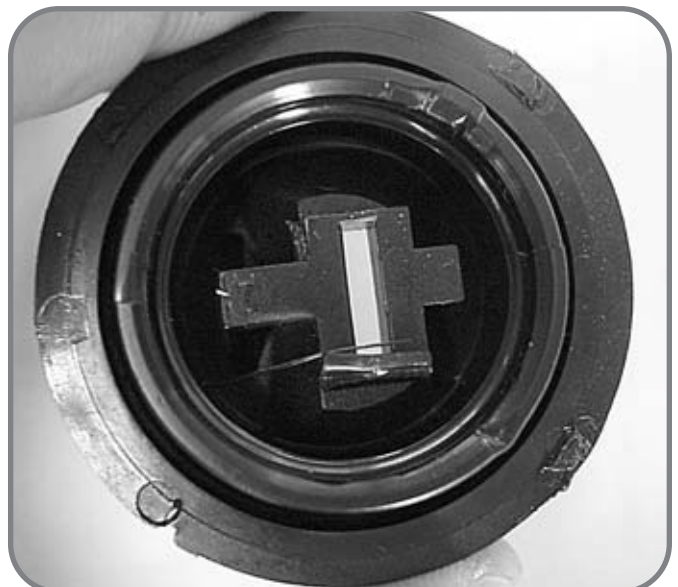
Once removed, the snap ring on the cylinder is clearly visible. (See *photograph 38.*) When replacing the knob, make



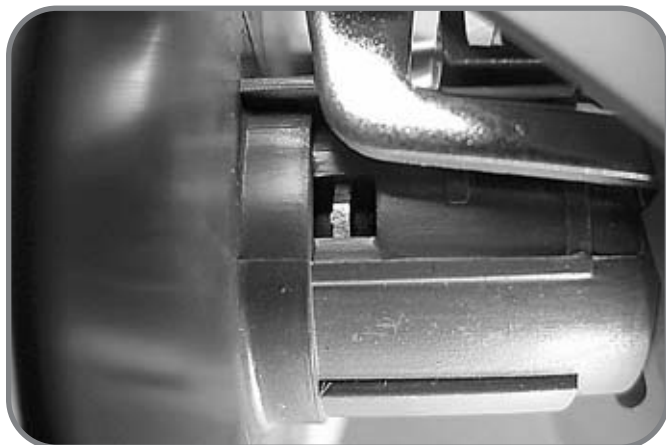
37 The knob of the Aztek lock can be removed and replaced without causing permanent damage.



38 The snap ring on the cylinder holds the knob firmly in place.



39 The backside of the removed knob.



36 Once picked locked, the plug's retainer can be depressed and the plug lock serviced.

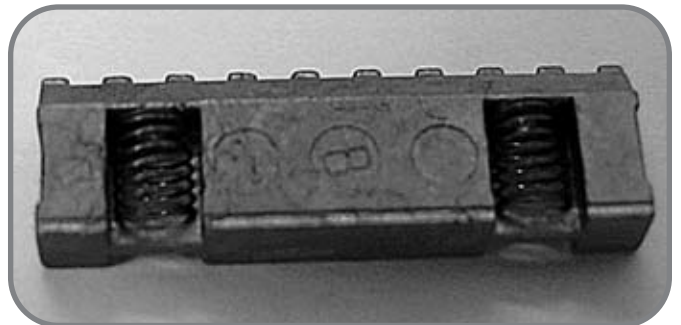
Continued from page 140



40 The sidebar design in this cylinder makes picking possible, and is identical to 1997 and up Saturn sidebar design.



41 Unlike other lock designs, the sidebar in the Aztek lock is a completely separate component.



43 The removed sidebar. Note the springs seated in the spring pockets.



42 The sidebar is removed and installed from the face of the lock cylinder.

sure that the knob is seated firmly on the face of the cylinder and that the snap ring is expanded into and properly seated in the knob. (See photograph 39.)

Picking the Lock

The sidebar design of the Aztek lock allows it to be easily picked. (See photograph 40.) Unlike the sidebar construction of other CSS cylinders, the sidebar of the Aztek lock is not staked into the side of the cylinder and is a completely separate component. (See photograph 41.) This same Huf design is used on all 1997 and up Saturn locks. When all the lock tumblers are removed, the sidebar can be removed and reinstalled from the face of the plug. (See photograph 42.) Removed, the sidebar springs can be seen sitting in the spring pockets of the sidebar. (See photograph 43.)

Begin picking by first removing the knob to fully exposes the sidebar and the tumblers. (See photograph 44.)

Use a piece of mechanics wire (a straightened paperclip will work) and a lock pick to manipulate each tumbler so that



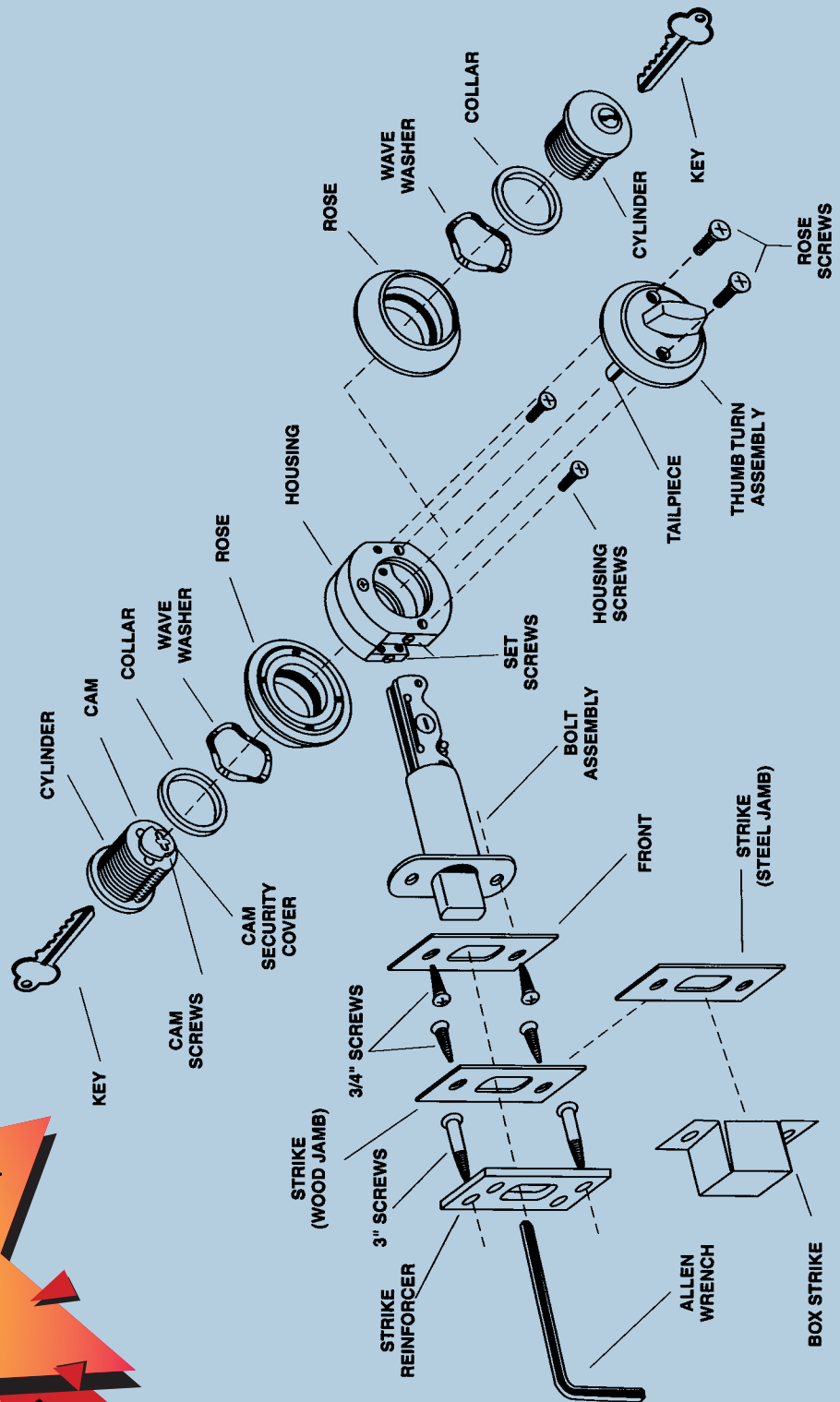
44 The sidebar and sidebar notches of the tumblers are easily accessible once the knob is removed.

the sidebar notch aligns with the sidebar. Place the wire near the sidebar, while using the pick to pull the first tumbler down until the sidebar notch is visible. Insert the wire into the sidebar notch, holding the tumbler in place. Proceed to the next tumbler and repeat the process. Repeat for each tumbler.

When all tumblers have been aligned, slowly remove the wire, allowing the sidebar to fall into place. The lock is picked.

TNL

Lori Lock 4500



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*HPC's 1200PCH
Punch Machine*



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*Mas Hamilton's
PowerLever 2000*



3rd Prize

Curtis 2200 Duplicator



4th Prize

*SDC Magnetic Lock,
Keypad and Exit Switch*



5th Prize

*Securitron 12-Volt Unlatch Plug in
Trans & Touchpad Retail Value \$650*



6th Prize

LaGard "SmartGard"



7th Prize

Detex Advantex



8th Prize

*Arrow 400 Series Alarmed
Exit Device & S-75 Mounting
Plate Kit for Narrow Stile
Aluminum Doors*



9th Prize

\$500 in BWD Products



10th Prize

\$500 in ASP Auto Locks



11th Prize

\$500 in Strattec Auto Products



12th Prize

Tech-Train "Jiffy Jack"



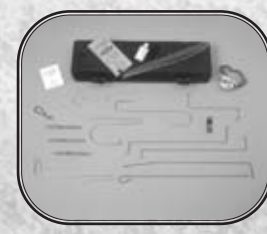
13th Prize

*Sargent & Greenleaf 6120
Electronic Safe Lock*



14th Prize

*High Tech Tools
2000 Pro Set*



15th Prize

Slide Lock's Master "Z" Tool Set



16th Prize
ESP Products Sampler



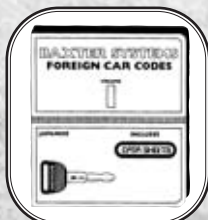
17th Prize
Major Manufacturing's
HIT-111 Drill Guide



18th Prize
Abus Padlock's Marine
Padlock Display (\$120 Retail)



19th Prize
MBA USA, Inc.
Falle Pick Set



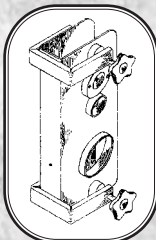
20th Prize
Baxter JV-1 & JV-5
Code Books



21st Prize
Sieveking Products
Squeeze Play



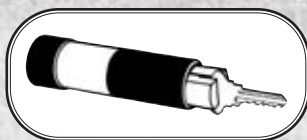
22nd Prize
Rodann's RV500 Wireless
Door Annunciator System



23rd Prize
A-1 Security Manufacturing
Installation Jig



24th Prize
Keedex Sampler



25th Prize
Framon
Impressioning
Handle



26th Prize
Gator Tool Multi-Purpose
Facecap Tool

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- HPC Air Wedge™
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- A-1 Security Products
- ILCO Key Blanks (100 Blanks)
- Keedex "SPIN OUT" Screwdriver
- Tech Train Training Video
- Sieveking Products Gm E-Z Wheel Puller
- Major Manufacturing Products
- Slide Lock's "Z" Tool Opening Set
- The Sieveking Auto Key Guide
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- High Tech Tools
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Send a tip on how to do any aspect of locksmithing. Certainly, you have a favorite way of doing something that you would like to share with other locksmiths. Write your tip down and send it to:

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The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107-1861

Or send your tips via
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Tips Start
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**BWD KWIKIT WINNER:
 Mercedes Ignition
 Removal**

I have discovered what I think is an easier way to remove a Mercedes ignition for which the keys have been lost or the ignition has malfunctioned for whatever reason.

First I drill a hole about 1/4" out from the column, regardless of which type ignition the car has as drill points "A" and "G". (See illustration 1.)

After the hole is drilled, insert a sharpened ice pick - angled toward the column - through the hole and pry the

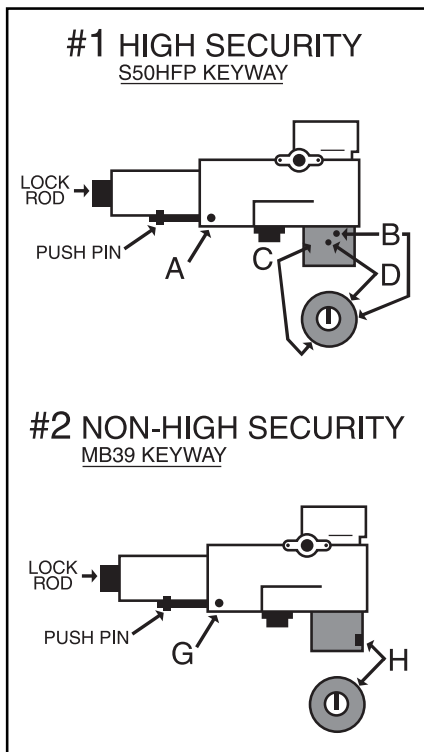


Illustration 1

ignition away from the column. This disengages the lock rod, which allows the ability to push in on the retainer, which will release the ignition. Once the ignition is freed from the housing, disconnect the three-wire harness.

Cylinder removal is different on the high security ignition than the standard ignition.

On the high security ignition, using the 550HP keys, the first step is to remove the black face cap housing. Next, I drill two holes at "B" and "C" in the illustration 1/57" from the back end of the facecap cover. Then I poke through the holes to release the plug retainer. Occasionally, the retainers remain rigid and will not release. In that case, I grind the housing away until I can remove the retainers; and then pull off the cover.

A Few Words From Jake...

First off, I want to thank each of you that have ever sent in a tip, trick or idea for this column. Keep up the great work.

Secondly, I want to sincerely thank each of the monthly and yearly prize contributors for their generosity and support - most of them for years of loyalty and prize contributions - and many of them for contributing both monthly and yearly prizes!

See y'all in Baltimore! I'll be at the TNL booth, if you haven't seen my new safe book, "The Fifteen Minute Safe Opening Technique", come on by, look it over and take one home with you! It's a real moneymaker.



**by Jake
 Jakubowski**

After that, I can drill at point "D" which is straight in 1.33" at 12 o'clock. Then I push in on the spring retainer to release the cylinder for repair or key generation.

After that, it's simply a matter of replacing the cylinder and facecap housing. After I make sure everything is properly lined up, I drill a 1/4" deep hole and insert a roll pin to hold everything in place.

On the non-high security ignitions, the procedure is basically the same, until I get to the cylinder. Once it is in your hand, measure straight in at the 2-3 o'clock position .400" and .640" from the facecap, and grind the housing until the retainer is exposed.

Then grind the retainer until you can turn the housing counter-clockwise. Once it is off, grind the retainer down until you can pull the cylinder out and repair it or generate a key. When I reassemble the cylinder and housing I use a roll pin to stabilize everything.

I can accomplish the whole procedure, on both types of ignition, in under an hour.

According to one dealer invoice I saw, the dealer charges \$694.00 for the same repair.

*Mark Caudill
 Texas*



**WEDGEKO KEY EXTRATOR
 WINNER:
 Replacement Cases for
 Unican**

In the UK, I experienced a problem obtaining spare parts for the Unican 8000, digital lock. It seemed that the lock cases have, for some reason, worn out prematurely. The bolt activators are made of a zinc based alloy and the springs caused the zinc alloy to corrode.

I approached Unican for parts, or new lock cases and was told that none were available, as the series was now

obsolete.

Since my customer had several of these locks around our area, I decided to look for a replacement or substitute.

I found that the Cisa 52710, 7mm lock case, is a very good replacement lock case for the Unican 8000. It takes only a slight amount of modification to make this retrofit and there are plenty of spare parts and springs available.

*J. Goodwin
 England*



**STRATTEC WINNER:
 Alpha Tec Trick**

A lady called on a Sunday and had to have her Chevy Cavalier re-keyed "right away." I had recently replaced an Alpha Tec ignition and had the old one (which I had repaired) in the truck, so I thought it would be a fairly straightforward job even though I did not have any shear head bolts.

Here's how I handled the job:

I drilled next to the upper and lower roll pins and pried them up with an ice pick and then pulled them free with Vise Grips®. Next I cut off just enough of the saddle to remove the ignition. I left enough of the weld to swage it back later. Then I turned the saddle 90° clockwise to remove it.

Note: Without a working key, remove the old ignition. With a working key, take a replacement cylinder and insert it in the ignition. As you are pushing it in, help it along by turning the saddle back to the 12 o'clock position and make sure the shifter cable is working properly. Turn the key on and off to check operation.

Finally, put the roll pins back in and re-swage the saddle by using a punch and hammer to "peen" the edges over.

*Dave Craig
 Illinois*



**HPC WINNER:
Screw Shim Trick**

Most locksmiths know that when a wood screw hole is a little large, you can break a toothpick off in it and reinsert the screw, with the tooth pick making the screw fit tighter.

Here's a little shimming trick that you may not have thought of.

Have you ever gone to rekey locks on metal doors with panic devices on them? How many times have you found an assortment of screws in them? This is caused by poor installations, wear and over-tightening of the screw.

Next time, open your flat spring steel assortment and find one that fits the inside diameter of the hole. Cut off a short piece and insert it into the hole. Reinstall your exit device and screws. When you draw the screw tight you just bend the spring stock and it snaps off flush. You now have a tight and good-looking re-install.

This is just another twist on the old toothpick idea, but it sure works.

*Steve Phillips, CPL
Illinois*



**SARGENT &
GREENLEAF WINNER:
Correct Sag to Make
Door Work**

Here's a great, long-term solution to sagging, sticking wooden doors.

Whether on new homes or older homes, wooden doors often tend to sag and then the locks won't align properly or latch. The problem (especially on pre-hung doors) stems from the fact that the doors are often installed in the opening with only finishing nails and after a period of time, the hinges pull away from the frame or, the frame itself pulls inwards.

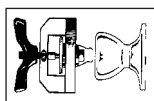
To correct the problem, open the door 90° and remove the two screws closest to the stop. Drill a 3/16" hole through the jamb (approximately 1") where both screws were removed. Next extend the holes to about 3" deep with a 1/8" bit.

Now power drive two 3" long, high quality screws into the holes. This will pull the jamb in tighter and "lift" the sagging door into alignment. After which you can do whatever service work or installation work you need to do.

This five minute repair pays twenty bucks and earns you a lot of admiration from your customer who has been

unable to find anyone to fix their problem for them.

*Leonard Downing, CPL
Oregon*

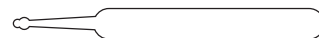


**A-1 SECURITY
PRODUCTS WINNER:
Picking Late Model
Honda Ignitions**

I have found an easy way to pick the ignitions on late model Hondas - the ones with bi-directional wafers that use the double-sided X-214 key.

First take two HPC BPX-2, flat steel, double ball picks (or similar picks from another manufacturer) and tape them

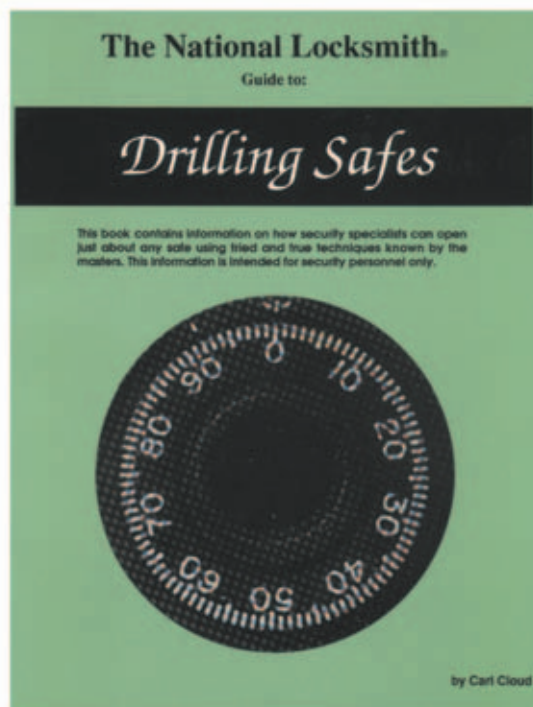
TAKE TWO DOUBLE BALL PICKS LIKE THIS ONE



AND GLUE OR TAPE THEM TOGETHER, WITH THE ENDS OVERLAPPING SLIGHTLY, AS SHOWN HERE.

Illustration 2

Drilling Safes



One of the most expert satemen in the country, Carl Cloud has written a very important book on safe opening.

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#DS - 1

together with the balls overlapping slightly as shown in *illustration 2*. Use a fairly rigid tension wrench and simply rake the tumblers with the modified pick down the middle of the key way until the plug turns to the accessory position.

Once the plug is turned to "ACC" you can remove the cylinder and generate a key by code, which is stamped on the side of the cylinder housing.

I have found this method to be better for me than any other method I've tried, including rocker picks and foreign

double-sided picks.

*Susan DeWolfe
Massachusetts*



**ILCO KEY BLANKS
WINNER:
Quick Rekey Trick**

Whenever I rekey a new lock to either a customer's existing key or to another original key, I dump the bottom pins from the new lock into a 3 X 3 plastic parts bag along with the original keys.

I insert a card with the key biting and pin lengths written on it in the bag. This makes it very easy to re-pin a

different cylinder, for another customer or application, without having to gauge a key and/or look at the pinning charts.

I also include a set of top pins and springs since I normally dump the top pins and springs for inspection during a rekey of previously installed cylinders.

*Burl H. Ware
Missouri*

**KEEDEKX WINNER:
Mitchell Reader Crossover**

I was asked to originate a key for a 1982 Honda motorcycle. I picked open the gas cap, found the code number, and cut a key on the X84 (HD74) key blank.

The key worked the gas cap and helmet lock, but would not even enter the ignition, which, it turned out, had been replaced. The replaced ignition required an X138 (HD75) which is the reverse of the X84.

I could not find a code number on the replacement ignition and wasn't having any success impressioning or reading the wafers.

In near desperation, I grabbed my H. E. Mitchell EZ Reader (Toyota TR33 or X137) and successfully read the wafers in the Honda lock.

I have also used the EZ Readers on a Toyota Camry, with the X159 keyway and Chevy Novas.

*Robert Milan
Ohio*



**TECH TRAIN TRAINING
VIDEO WINNER:
Charge! Maybe Not**

How many times have you reached for one of your battery-operated tools and discovered the battery was dead? Then when you grabbed your spare, you found out you forgot to charge it? Tying a string around your finger to remind yourself to charge a battery is not practical.

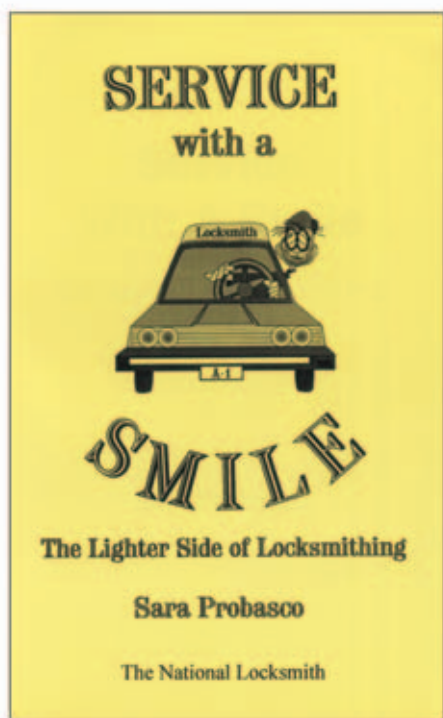
What I do is this:

Whenever I remove a battery from a tool and that battery needs recharging, I simply wind a rubber band around it! That let's me know instantly that the battery needs recharging and I make it a point to check my batteries every evening when I finish my calls for the day. If I see a rubber band on a battery, I slip that battery into a charger.

Now my drills, Dremel Tools and rechargeable lights work when I need them to.

*Bob Roman
Maryland*

Service with a Smile



To tickle the funnybone
of anyone in a service
oriented business.

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#SWS



SIEVEKING PRODUCTS
GM E-Z WHEEL
PULLER WINNER:
Key Stamping Jig

When stamping numbers, or letters, on brass tags or keys, it's nice to be able to keep the stampings aligned. However, not everyone wants to lay out a hundred, plus bucks, for a stamping block.

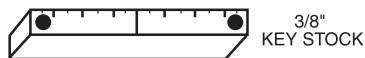
My stamping jig costs only about \$2.00 and helps me turn out a professional looking stamped key every time.

First, I picked up a piece of scrap steel plate about 4" x 6" at one of the local welding shops. Then I went to the hardware store and bought a piece of square "key" stock and two 1/4 x 24NS hex head screws, long enough to go through the key stock and nearly to the bottom of the plate. Now measure the square stock in 1/4" from the end, center punch the mark for drilling.

With a C-clamp, secure the key stock where you want it on the base plate and drill a 1/4" hole through the key stock and until it just marks the position on the base plates. After drilling the hole, remove the key stock and drill the base plate with a 13/64" drill bit and tap the hole for 1/4-24NS. Now, turn the base plate over, counter sink the holes and thread in the screws so they extend beyond the bar stock. Wing nuts will tighten the bar stock down.

Next mark the key stock every 1/8" from end-to-end, with a center line all the way across the bar. (See illustration 3.)

PLACE BRASS TAG UNDER BAR
AND TIGHTEN ALLEN SCREWS



BASE PLATE 1/4" FLAT STEEL PLATE

Illustration 3

Now, cut a small piece of rubber to fit on the bottom of the brass key stock (a piece of bicycle inner tube works well), glue it to the bottom of the stock to prevent marring and to hold the tag or key in place. A piece of felt glued to the bottom of the base plate, keeps it from marring your workbench.

Lee Whiteford
California



MAJOR
MANUFACTURING
PRODUCTS
WINNER:

Holding On To a Squeeze Play

Bob Sieveking's Squeeze Play is one of the most useful tools in my toolbox. It is also expensive. As a result, I don't want the Squeeze Play to end up inside a customer's door and me having to buy another one.

What I have done to ensure that I don't loose my Squeeze Play because it slipped from my grasp and fell into the lower reaches of a hollow metal door, I have come up with the following to keep

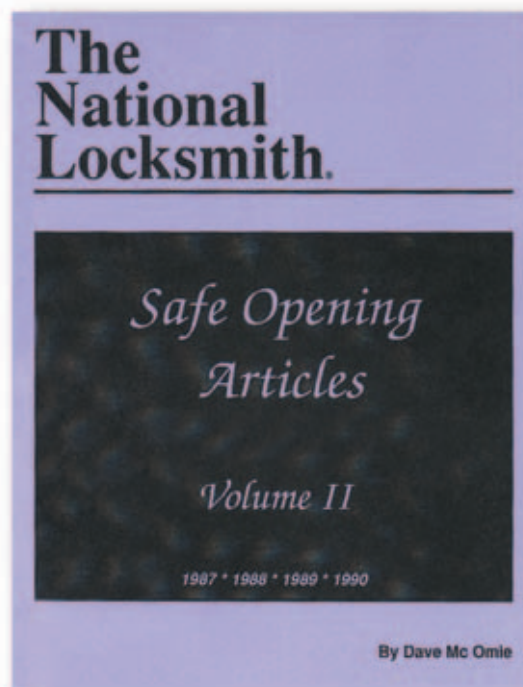
that from happening to me.

If you look at *illustration 4*, you will see that I drilled a 5/32" hole in opposing corners of the inner portion of the Squeeze Play and threaded a long piece of stout wire trough the hole and tie it off. This left a tail to secure to the door when using the tool.

Now when I'm prepping a metal door and I need my Squeeze Play, I simply insert the Squeeze Play in the door and wrap the wire around the door knob and complete the prep without loosing a valuable tool down, inside the door.

Larry Kanzer, Pennsylvania

Safe Opening Articles



Dave McOmie's original articles from when he first started writing for The National Locksmith are reprinted in this book.

CLICK HERE TO LEARN MORE



#SA - 2

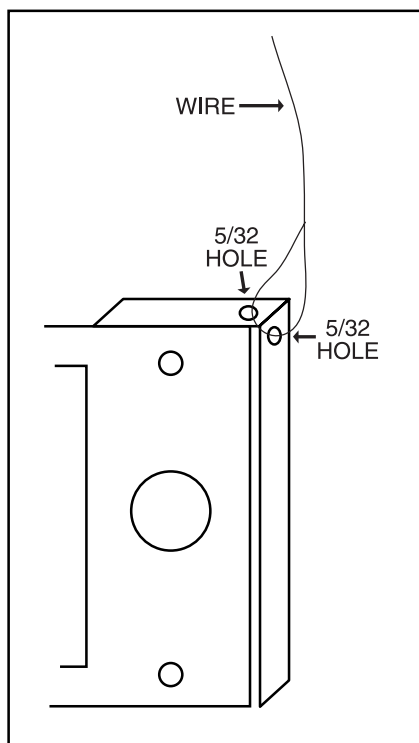


Illustration 4



**SLIDELOC'S "Z" TOOL
OPENING SET WINNER:
Improving Picking
Ability**

I have found a simple way to improve my picking ability and I think it will work for you, too. I call this modification, my Slick Killer Pick. Most picks we purchase are somewhere in the vicinity of .025" thick and really need modification to work properly. Here's what I do:

I begin by filing the side of my favorite pick down to .016" and then polish it on the sides with fine (400 grit) sandpaper. I complete the modification

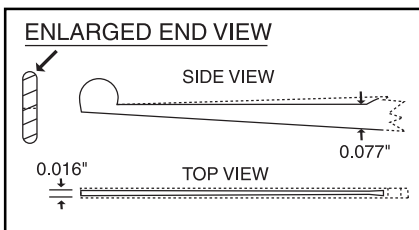


Illustration 5

by narrowing the picks shank to .077" and file, sand or grind all the edges smooth. (See illustration 5.) For SC1 and Y1 keyways, I file my Killer Pick sides down to .012".

Remember, picks were not made to pry the pins to the shear line, but to manipulate them to the shear line. So, if you make yourself a set of Killer Picks, pay particular attention to the amount of

tension you apply and your modified picks will last a long time and your picking skills will improve dramatically. The more you use your Killer Picks, the more proficient and adept you will become in their use.

*Joseph McCord
Georgia*



**THE SIEVEKING AUTO
KEY GUIDE WINNER:
Ford Tibbe Ignition
Tip**

Tibbe locks have a common problem, the ignition will not turn due to a worn keys and, very often, worn tumblers as well.

Since Tibbe locks have an active retainer, they must be turned to be removed. To remove the lock cylinder when the key will not allow you to turn the cylinder to the removal position, you must first remove the electric switch that is at the bottom of the lock.

Holding the shaft that activates the electric switch with you fingers, or very gently with pliers, insert the worn key and turn both the key and the shaft simultaneously. The plug will rotate to the removal position.

Once you remove it, you can repair or replace it as necessary. All that's left now is to re-assemble the lock, switch, etc.

*Joseph Bachar
Israel*

**JET KEY BLANKS WINNER:
Shim Picking Trick**

I keep a ring of key blanks on my workbench in my van next to my pinning kit. This key ring contains the most common keys to locks found in my area. That is: KW1, WR3, Y1, DE6, WK2, etc.

When I have a lock to rekey and the customer has no key for that lock, I don't have to go to my stock to find a key to shim the lock, I simply pick up my key ring, find the right blank and shim the cylinder.

*Glen Hutchinson
Texas*

**HIGH TECH TOOLS
WINNER:
Treskat Tip**



I've had two separate instances where I've nearly pulled my hair out when GM Roadside Assistance gave me what I thought were improper codes. In both cases, I had gone to the vehicle location and made keys for the cars only to find that they

didn't work.

After checking and rechecking the codes, testing my machine for accuracy and double-checking the blanks I was using, I had to make the keys by impressing and progressioning.

That of course, caused some interesting conversations with the person at GM Roadside until I found out that the problem was not caused by GM. The Treskat system that I use, had a flaw in it.

It seems that my version of Treskat codes for the GM series S000K, through S999K are all wrong - by one number! I simply subtracted "1" from the code given by GM, located the modified code in the Treskat system and cut the key accordingly. Worked like a charm!

For example, If GM gives you S995K for a code, subtract "1" from the code and cut the blank according to the code S994K. No more miss-cuts and time saved for me, not counting the frustration factor!

*Nick Hoffert
Florida*



High Security Safes Volumes 1 & 2



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BUSINESS BRIEFS

ROFU Plans New Building

After many months of problem resolution with a multitude of authorities, ROFU International Corp., will finally be breaking ground for its new headquarters.



Mother nature contributed to some of the delays, as in the path of the sewer lines, an 1,100 year old debris field of ash and trees caused by an eruption of Mount Rainier was found.

The building was designed by Robert Guyt AIA, son of the owner of ROFU. The plans have won several awards from architectural associations.

ROFU's recent ISO 9000 certification combined with the ease of operating in the new facilities will make service to the customer base even better.

Maestro Access Controls Launches in the USA

After more than 5 years of selling in the International marketplace, Maestro Access Controls, Inc. introduces its line of electromagnetic locking devices and proximity readers in the USA. The product range includes magnetic locks, electronic bolts, shear locks, gate locks and proximity readers utilizing unique technology. All products carry a five-year warranty and are UL Listed, CE Approved and ISO9002 Certified.

For more information, contact customer service at (866) 3-MAESTRO or visit www.maestroaccess.com.

SDC 2001 Access Hardware School

SDC offers the most comprehensive education of access control hardware products August 15-18th, 2001 in Westlake Village, CA. The first of the two-day course curriculum includes product review, features and benefits, doors and frames, application, budget, new construction, retrofit and life safety codes. The second day includes a factory tour, product review, basic electricity, power supplies, hands on wiring, troubleshooting and mantrap applications. SDC also invites attendees to join them for social and sport activities throughout their stay. Including a cocktail party, BBQ, golfing and deep-sea fishing on a privately chartered boat. All meals are provided by SDC. Contact SDC for enrollment availability by July 16th at: (800) 413-8783; or E-mail: service@sdsecurity.com.

Access Hardware Supply Expands Product Line

Access Hardware Supply has added the Benchmark Swing, a low energy operator and the newest door system from Dor-O-Matic, to its extensive inventory of products. It is designed for faster, easier installation and because of its compact 27" size, it only requires one individual for installation. The built-in delay does not need extra components, saving money, time and reducing inventory. The Benchmark door closer has a safety stop, which decreases liability and increases its life cycle. A positive stop saves wear and tear on the unit making it longer lasting while protecting walls and trim. Its versatile design enables the Benchmark to be used for the interior or up to 200-

pound exterior applications, with reliable performance and adjustable microprocessor controls including a standard on/off switch. The Benchmark Swing is intended for single and simultaneous pair doors.

American Lock Collectors Association Celebrates 31st Year

The American Lock Collectors Association is celebrating its 31st year. Any readers needing information on old locks, keys or related hardware can contact the club president, John Grist, at the below address. Either he or one of the other 400+ members will be glad to assist with any matters from one piece to entire collections. The Association is also having its largest Lock, Key and Restraint Collector Show ever in Cleveland, Ohio on July 14. They have collectors from all corners of the United States and some from overseas. Everyone is welcome. For more information contact John T. Grist, American Lock Collectors Association, P.O. Box 1476, Railroad Street, Clayton, GA 30525, E-mail security@acme-brain.com.

Aiphone Introduces the QuikSpec Program

Aiphone Corporation has expanded their web site with the new QuikSpec System Design Program. This new program allows you to spec an Aiphone system right from your computer. By choosing the type of system you want to design and answering a few simple questions, the QuikSpec system will give you a custom equipment list. The QuikSpec program can be found on the Aiphone web site at www.aiphone.com/QuikSpec.htm. Aiphone products range from simple audio-only door answering systems to sophisticated

video and microprocessor-based systems.

Fire King International Consolidates Safe Manufacturing

Fire King International has announced the consolidation of its safe manufacturing facilities in Southern Indiana. Fire King's Melink, Gary and NKL safe brands will all be produced at the company's New Albany plant beginning June 1. Currently, the Gary and NKL safe brands are manufactured at Fire King's Waynesboro, GA facility. The consolidation is a result of the sale of the Winchester Gun Safe line in December.

Image Vaults New DVR System

The explosion on digital video recorders (DVRs) on the scene has been both a blessing and a problem for some dealers. The problem is installing them properly. A new program is being launched to help installers. Any dealer who carries Image Vault DVRs will get assistance to ensure the setup is done correctly.

Installers call Fire King's tech-service center to schedule a time for an installation. Once on the job site, the installer goes through a checklist of 10 easy-to-perform tasks. These tasks take care of getting the Image Vault DVR hooked up properly. At this point, it's time to program the DVR. This is when the installer calls the Fire King service center to get in touch with a technician. Because the DVR is tied into a phone line, the technician at Fire King can remotely program the Image Vault recorder.

TNL

BASIC ELECTRONICS

part 6



by
William C. Deutsch

It Can Kill

Remember the last time you touched a doorknob on a winter's day? You got a nice little shock, didn't you? What you may not realize is that those annoying little snaps (referred to as electrostatic discharge or ESD) can range anywhere from 10-20,000 volts! Did you realize you had such power in your fingertips? Those little shocks can't hurt you, because the current is so small, but it only takes about 60 volts of static electricity to obliterate the average EAC controller. Do the math.

How to Protect Your Equipment

As you go about your day to day business, invisible electrons are jumping all over you. They jump onto you from the carpet, from your clothing, from your cloth van seats, and many other places. This build up of electrons is called "static electricity." After they ride with you for awhile, they get bored, and they want to jump off. An activity that we call "electrostatic discharge." They don't mean to, but when those mischievous little electrons jump from you fingertips (or "discharge") they can do a lot of damage.

Like water, electricity will always follow the path of least resistance. The easiest way to protect your equipment against ESD, is to provide a low resistance path through which any static electricity can discharge. This low-resistance path is like a detour for static electricity. The trick to preventing damage is to make sure that those electrons always travel away from your equipment. Here are four ways to do just that.

Wrist Straps

Photograph 1, shows an anti static wrist strap. The elastic band has a metal button inside that makes contact with your skin. You clip the coiled wire



1. An anti static wrist strap.

to something metallic - preferably something that is grounded. This forms the low resistance path for electrostatic discharge. Any static charge that you have built up will discharge harmlessly through the wire, instead of through

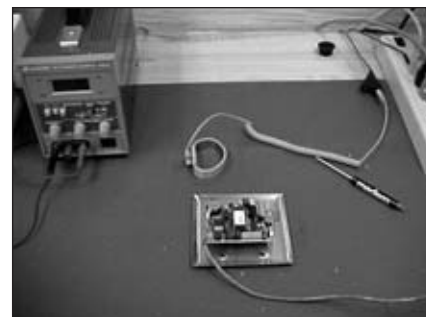
your electronics. Try to use a wrist strap whenever you are working with electronic circuit boards. In your EAC work, controllers are usually mounted in metal cans or gang-boxes, and that will be the easiest place to clip your grounding strap.

Discharging

Of course, there are plenty of times when wearing a grounding strap is just not practical, like when you're balanced precariously on a ladder. But there is a second easy way to protect your valuable equipment. Before you touch a circuit board, just grab the biggest piece of metal you can find. Even a lever handle will do. This way you will discharge any built-up static electricity before you endanger the circuit board.

ESD Stations

Back in the shop, you need to guard against ESD as well, so you will want to set up an ESD station. A mat, like the one shown in *photograph 2*, will dissipate any static charges built up on



2. This mat will dissipate static charges on you or your equipment.

you or your equipment. Simply lay your equipment on this mat while you are working. Notice that the mat comes with a wrist strap for you to wear. This wrist strap is also connected to the mat so there is no chance of static electricity jumping off of you and into an unsuspecting microchip. Some companies even make portable mats that can be rolled up and stored away, so you won't have to dedicate bench space.

Whether you go with a permanent or portable station, you should set up a safe area in your shop for electronics service and bench testing. (I won't even ask if you bench test equipment before you send it out into the field.)

Two good sources for purchasing ESD equipment are Newark Electronics (www.Newark.com) and Allied Electronics (www.Alliedelec.com).

Grounding

Grounding is essential for protecting the electronics you install. To understand the concept behind grounding, think of how a lightning rod works. The lightning rod's purpose is to divert lightning away from your house and into the ground - hence the name "grounding." Picture a flash of lightning streaking down out of the sky and towards your house. It wants to go into the ground. But even though your brick house is a very high-resistance path, the lightning bolt has enough power to burn its way through, causing incredible damage along the way. But wait. The bolt sees a lightning rod, which is made of copper and therefore a much lower resistance path into the ground. Being a lazy bolt, it decides to charge down through the rod instead of your house. Whew!

Now look at *photograph 3*. It is a SiteLine® access control reader. The wires are for grounding and when properly connected, act like little lightning rods. Here, of course, we are worried about those little finger sparks we already talked about, and not

lightning strikes. Since this reader is designed to receive a metal key, there is a large danger of electrostatic discharge when the key is inserted into the reader. If the ground wires are properly connected, then any static electricity will discharge through the ground wires and not through the circuit board where they can do damage.



3. A SiteLine® access control reader.

The ground wires on this reader should be wire-nutted or soldered to a single 18-gauge wire. Always use a separate ground wire, even if you have some "extras" in the multi-conductor wire that runs to the reader.

The other end of the 18-gauge wire should be connected to a suitable grounding point. Here are your best bets:

1. Electrical conduit. As long as the conduit goes all the way back to an electrical service panel, you can use it for a ground. You will know that the conduit connects to the service panel if it carries AC wiring, such as for lighting or outlets. Simply connect your ground wire to the conduit using a grounding clamp. You can purchase

grounding clamps at any electrical supply house and most hardware stores. Remember though, it is your responsibility to comply with codes, so make sure that you are familiar with your local and national electrical codes.

2. Cold water pipes.

3. Metal building trusses. These are usually easy to find above drop ceilings. Even if they do not literally "go into the ground" there is enough surface area on these big monsters to dissipate ESD.

4. A spike in the ground. Use re-bar. Sure it sounds crude, but it is effective.

Summary

A big part of EAC work is protecting your circuit boards and installed equipment against damage by ESD. If you're not doing so already, put a good ESD policy into place at your shop. The policy should include:

- 1.** Wearing anti-static wrist straps whenever possible.
- 2.** "Discharging" before handling circuit boards.
- 3.** Setting up an ESD workstation in your shop.
- 4.** Grounding your installed equipment.

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Unlocking the 2001 Nissan Sentra

by Tony Vigil



1. The 2001 Nissan Sentra.

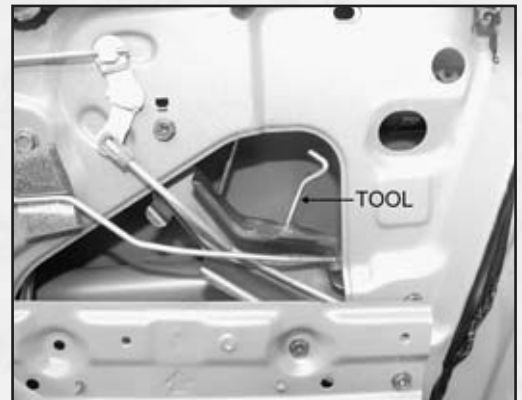
Nissan has introduced several new models in the last few years. Many are just remakes, others like the Xterra (which by the way is nothing more than a modified Frontier), have taken the country by storm. The Sentra has been unchanged for a few years, but Nissan decided to upgrade this vehicle for 2001.

The 2001 Nissan Sentra is all new in many ways. (See photograph 1.) It is well appointed, has more power, is more luxurious, and most important to the locksmith, has a well shielded lock mechanism.

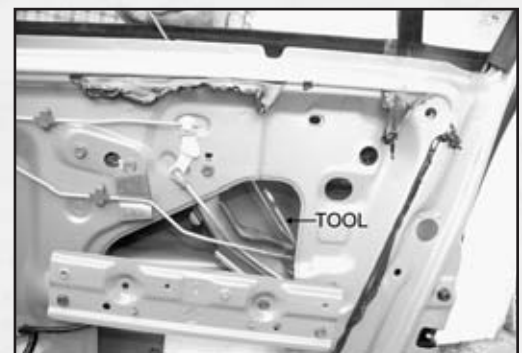
We will be using the new High Tech Tools "Sentra Tool" to unlock this vehicle. It is important to note that the rear door mechanism on this car is very similar to other Nissans like the Altima. Unfortunately, a very tight weather-stripping makes it difficult to unlock at the rear door without damaging the weather-stripping. Removing the weather-stripping is an option only if you don't mind paying for a replacement if you damage it.

To attack this problem, High Tech Tools designed a new tool, which attacks the front bell crank and unlocks this baby in about ten seconds flat. The new tool, "Number 73," is specifically designed for this vehicle. The unique bends allow it to be inserted easily. It is designed to bump the bell crank and unlock the vehicle.

The first step is to wedge the door and insert the tool with the tip pointing toward the rear of the vehicle. (See illustration A.) Lower the tool about midway in the door where you will find an opening in the panel. (See photograph 2.) It is in this opening that you insert the tool. Twist the tool so that the handle moves towards the rear of the car (see illustration B,) allowing it to



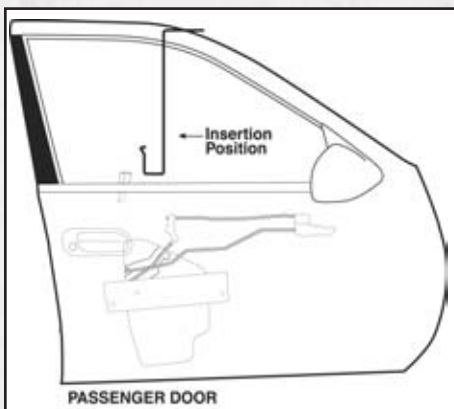
2. Lower the tool about midway in the door.



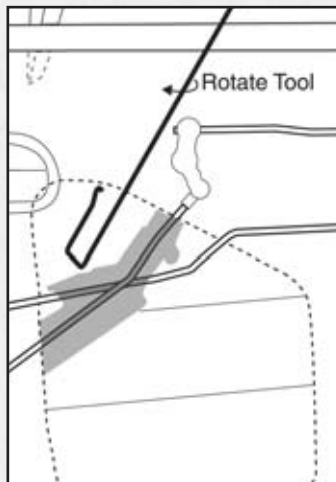
3. Insert into the opening.



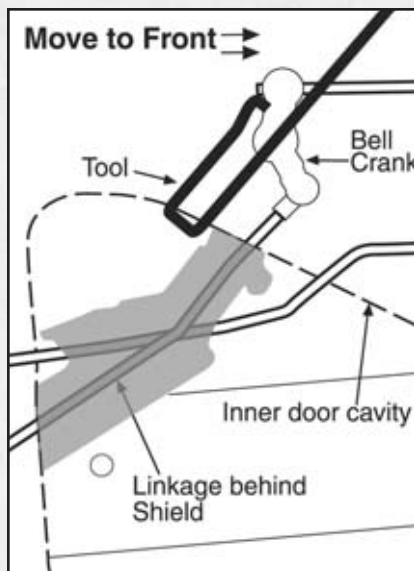
4. Pull handle towards the front.



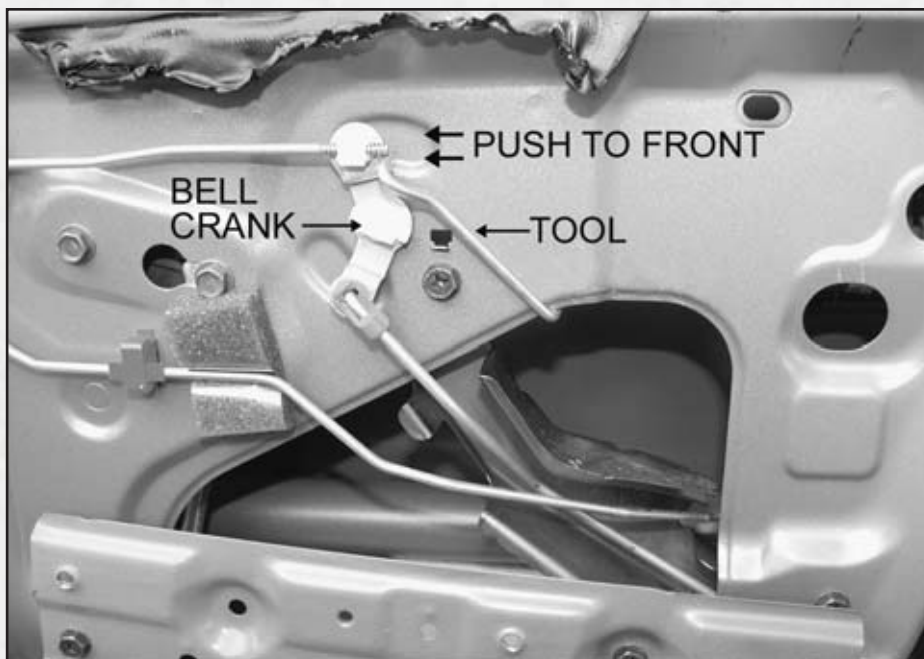
A. Insert the tool with the tip pointing toward the rear.



B. Twist the tool towards the rear.



C. The tool contacts the bell crank.



5. Pulling the tool forward pushes the bell crank open.

insert into the opening in the panel. (See photograph 3.) Next pull the handle towards the front of the car. (See photograph 4.) This allows the tool go to the other side of the inner door panel and contact the bell crank. (See illustration C.)

By simply pulling the tool up and forward the rest of the way, pushes the bellcrank to the open position. (See photograph 5.)

The simplicity of this opening lies with the fact that the tool is specially designed to slip right in and push on that bell crank with very little effort at all.

For more information contact: High Tech Tools at: 1400 SW 1 Street, Miami, FL 33135. Phone: 800-323-8324; Web: www.HighTechTools.com. Circle 207 on Rapid Reply. **TNL**

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Featuring a LaGard
Swingbolt lock

by Ray Hearn

This is an NKL safe that could not be serviced by factory referral in the required time frame (*see photograph 1*), so the customer called my friend Bill Schreiber, at Metro Lock, since this was his usual locksmith. Bill and I have worked on safes together for years and he always calls me in when he has something interesting, and a locked non responsive electronic safe fits that description perfectly. Normally when you go to service an NKL safe, the first step is to call the factory and determine warranty status as well as letting their staff help through the diagnostics. The NKL 800 number is posted on each of their safes.

First we needed to know where the lock is mounted. The lock centerline (or where the spindle hole would be on a mechanical lock) is 12-7/8" down from the top of the door and 9-15/16" right of the opening edge of the door. Now we need to plot the location of the solenoid pin to unlock this LaGard Swingbolt lock. The solenoid pin is located 1-1/4" from the lock centerline at number 54. (*See illustration A.*) The lock is a modified LaGard Swingbolt design mounted vertical down.

Bill Shcreiber is shown drilling at the position plotted for the solenoid. (*See photograph 2.*)

As he started to drill at this location he immediately dulled two high-speed steel drill bits. I thought the first one might have been dulled by previous use, so the next bit came out of the stock envelope with a dozen virgin bits and it dulled immediately as well. I don't know if NKL is using a bit harder

metal for their door slab, but a sharp 5/16" Keedex bit finally did the trick.

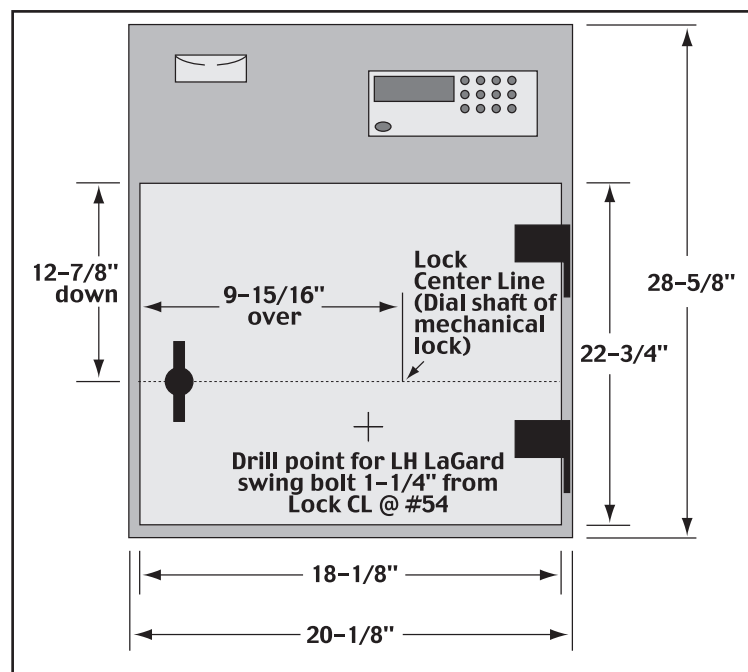
The door slab is 1/2" thick to the hard plate. The hard plate was hard, but a few changes of bits of different designs kept it cutting. The plate is 3/8" thick and for as hard as we pushed to get through, we should have used a pressure rig. The next layer of metal was gray colored so I knew it was not the LaGard case, but rather a bridge mounting. A HSS bit chewed through the mount till the friendly golden glow of the LaGard case was visible. A short



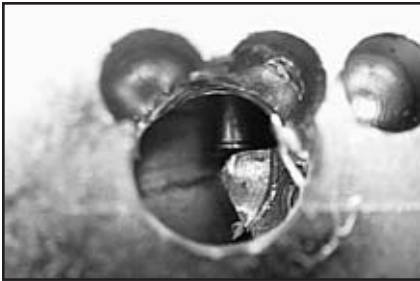
1. An NKL electronic controlled safe.



2. Bill is shown drilling for the solenoid.



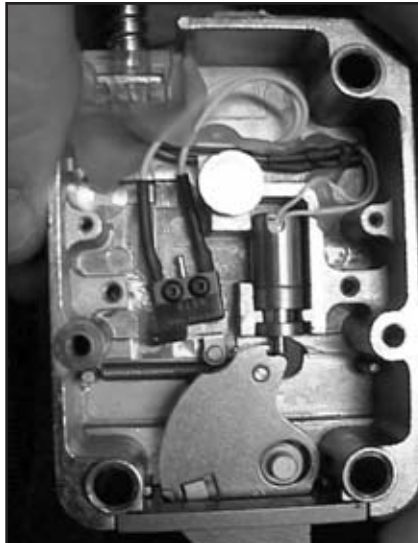
A. Drill point diagram.



3. The sight of the solenoid pin.



4. A little fishing with an ice pick to push back the solenoid back and the door was open.



5. The hole placement from inside the lock case.

bit of drilling broke through the case. After I cleaned out the hole I had the most beautiful sight of the solenoid pin I could wish for. (See *photograph 3*.)

A little fishing with an ice pick to push back the solenoid while turning the handle and the door was open. (See *photograph 4*.) *Photograph 5*, shows hole placement from inside the lock case and the additional lock bolt indicating micro switch.

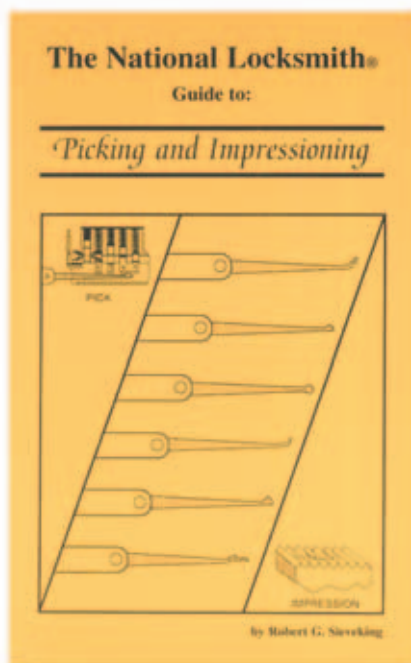


6. The boltwork and relocker location.

The boltwork and relocker location can be seen in *photograph 6*. The relocker is shown in the active position because the retainer plate was removed.

The only task left was to drill open the inner door, which has an electrically authorized knob lock with a spring latch. This door only required a 1/4" hole 3/8" from the opening edge of the door in line with the knob center. This hole allows an inserted ice pick to retract the bolt and open the door.

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Author: Sue Rodgers (healthyplan@aol.com)

We are shopping for a new service van. Would you please share opinions as to how well the minivans work out for locksmiths? I'd like to know what you liked or why you didn't like them. I'm looking at one with an extended top.

Author: Roger Weitzenkamp (roger@blackhawk7.com)

A minivan is nicer for parking on crowded city streets. It's also harder on the knees, at least without the extended top. It can't hold as much, so it forces you to be a little better organized than you would be otherwise.

Author: Derek, Preferred Locksmith Service (help@thelocksmith.net)

The problem I've noticed with minivans with extended packages is that the transmission doesn't hold up too well. With the extended packages, the truck frames hold up better than the van frames. But it all depends on the particular vehicle... especially if you're buying a used vehicle. A good transmission

test is to break and gas at the same time and see if the car skips or hops.

Author: Steve May (un-lock@juno.com)

I like the larger vans. I have a 1999 Ford 150. It doesn't hold as much as my older 1984 Ford but I like it. (Get Air.) I couldn't imagine having a mini van. I have no room now in my Ford 150. I stock a lot on my van it keeps down on return trips!

Author: Woody Quioñes (carlock@strato.net)

Really evaluate what you're going to do. Big cities are a full service vehicle's parking nightmare, where as mini vans can easily slip into any little spot. But, you give up needed space in a mini van. A full size service van allows you room to work and stock more needed items.

When I first started off I had a 1989 Dodge Caravan Cargo Van. This baby was great. It was a workhorse and was great on fuel. As time went by and like any business you tend to grow in spurts. So you buy when the spurts are happening.

Well with more purchasing came less room in the mini van. I kept the van for five years and then traded it in for a, are you sitting down, 1973 Chevy Step Van. You heard me correctly. This vehicle is huge and has I-beams for bumper supports. I get 8 miles to the gallon and people move out of my way.

However, it came with a gas-powered generator that puts out 110v & 220v current. I also have air conditioning. With it being oversized I was able to setup a complete mobile shop inside.

I run my 1200CM, my Ilco 025, my Framon Sidewinder, and my laptops. I am able to go out onto a job site that has no power and still drill holes in the doors, charge up my batteries, run my Dremel, operate my miniature drill press, and use an electric 220v welder.

So what I give up in fuel economy and height restrictions I make up by having a complete mobile shop for my customers. My next rig is going to be larger.



Author: Glen Cooper (edskeys@aol.com)

Look at what you will be doing with it. Will you be using the van for underground parking? If so, will the extended height clear the roof of the parking garage at your job site? How much is gas where you are? A mini-van would be better on gas. I don't like the Dodge mini-vans because I think they are just too small. The Astro vans are the best choice in my opinion, especially if the inside is designed right. However, if you carry a lot of stuff, a mini-van might not be big enough for you.

Author: Bill Cochran (billlock@win.bright.net)

I wish I had a full size van, in fact I wish I had a high cube style van, but I'm glad I got a mini-van. Even though room is at a premium, the savings in fuel costs and the sure footing of front-wheel drive more than makes up for it. Yes, it's cramped to work in, but I find I do most of my work outside of it anyway. I do need to be organized and repack many of the kits to a smaller size as well as re-stock the van on a regular basis. I've tried a number of rigs over the years and by far the best is (as far as I am concerned) the Chrysler Mini-vans. They are easier and cheaper to service than the others. Parts are plentiful and you can even see the whole engine instead of having it hidden under the dash!

**Author: Chuck
(locksmith@westsidelock.com)**

It all depends on what you need to carry. I've always used a full size van. I carry a lot of inventory and need the space. I would like to scale down and drive a mini van some day, but only if I can get the head room in the rear. The wear and tear on the body is greater with a full size van, but it is extremely comfortable on the back when sitting at the counter top.

**Author: Dean Sperlin
(lightninglock@hotmail.com)**

I have an all wheel drive Astro van and I love it! In the area I live in (Truckee Ca.) in the Sierra Nevada Mountains, we get large amounts of snow, about 300+ inches per year. It is crucial to be able to travel on the snow covered roads. My Astro van is the best snow vehicle on the road with the weight from my tools and shelving and four studded snow tires. I go cruising past all types of cars and trucks stuck in the snow on my way to rescue skiers who lost their car keys!

It's also very durable. I currently have about 130,000 miles on it and its just getting started. I figure I'll probably get 300,000 out of it. The only problem I've had with it is the paint is peeling. I've seen this a lot on GM cars. I'm going to take it in to the dealer as I've been told they will repaint it if it's not more than five years old. Other than that it has been the perfect work van for my needs.



GM Steering Column Course



Comes complete with take-home test so you can become certified on GM steering column service! Authoritative training on every domestic GM column from 1967 to 1995.

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#GM - 2



Author: Raymond, San Francisco, CA
(COMPACT45@EARTHLINK.NET)

Hey Sue, in my opinion get the full sized van, you will not regret it. Experience has taught me to always get a little larger, or a little more, than what I initially needed. This will give you room for growth and expansion in the future, instead of having to upgrade somewhere down the line. Now don't go ballistic like my neighbor. He just purchased a Ford Titan E-350, V10 van. The knuckle-head does not do any type of construction work, or locksmithing, or anything. As for underground garages, you should not have too much trouble with an E-150, or regular sized van. If you get one of those huge monster trucks, forget it. Parking is also not too bad. Just be able to parallel park. Try to avoid too many windows. I don't know how the crime is where you are at, but here, well, suffice it to say that my only two rear windows are heavily tinted, and "cardboard" on the inside. Over the window bars.

As for the mini vans, they're ok, but too small for me. (And I'm short). The mini van's spare tire also goes in the rear. But I'm told that you can get aftermarket mounts for the exterior. Adrian Steel also has a package where you can mount the spare tire out of the way in the rear). The main thing is the working room. I do not like being cramped in a hot, funky van...working on a project, in hot weather. And you know that you'll be in that van, sooner or later, working on a project for an extended period of time.

Author: Ken Brann (KENSLOCKS@aol.com)

As they say, "been there done that". After 26 years in the business of locksmithing, I've had 2 Hi Cubes, both Chevrolet, one 10' and one 12', and they are a real shop on wheels, but hard on gas, and maintenance runs higher. I travel too extensively to own a mini van and wouldn't want to be cramped at my age.

Right now I find my present van, which was 15-passenger bus (Ford) one ton, to be just the cats whiskers. I didn't think I'd want the windows, but they are an advantage now that I'm using it full time every day. I get 12 mpg and with gas at \$1.32 per gal up to \$1.54 gal that's good. Its got heat and air front and back and hadn't been abused like some of the cargo vans I looked at. It was a good choice for me.

Author: Norman Martin (sales@monarchcoin.com)

A local locksmith I work with has a pretty full crew. He puts three guys on the streets, one in a minivan, one in a full sized van, and one in a big long step van that services new construction sites and larger service needs. Guess he saw the wisdom of picking the right tool for the right job, including which "tool" carries the tools to the site.

Author: Ed (llkey2@yahoo.com)

I will reiterate here. Consider what you need to stock in your van. Can you fit it in a mini van and have enough room? Who will be working in the van and will they be comfortable? I have an AWD Astro van which is great and still have a little room left over for expanding stock. Just not enough headroom for being 6 feet tall.

Author: Don Probasco (donsara@hilconet.com)

I started 20 years ago with a 1/2 ton pickup truck. It had a short wheelbase with a camper shell on the back. Then went to a used 16' Frito Lay Chevrolet step van. Then to a 1990 GMC Safari Mini van (still have and drive). For a second service vehicle I bought a 1974 Dodge Long wheelbase van. Then I sold it and bought a 1998 E150 Ford cargo van. We do a lot of "out of town calls" so mileage is important. We are a full line store, not mobile, so we do not have to carry as much inventory on the trucks. The larger trucks are definitely more comfortable to work in. I continue to drive the older mini van because I like the way it drives and I also do a lot of the out of town calls.

I would suggest finding another locksmith with one of the vans you like and ride with them and work out of it for a 1/2-day or so. See how it feels. Then do the same with the other and make up your own mind.

Author: Garth Meredith (merlock@connect.ab.ca)

Whatever you buy, make sure it has air and heat front and back. Also, before you get your cabinets (Adrian or whatever), invest in a good insulation job. A van without insulation loses heat too fast in the winter and absorbs heat too much in the summer. I've had Dodges since 1981 and am happy with them. My first was a plain-Jane slant-6 with nothing but auto and power steering - it lasted me 14 years and 250,000 km.

My new (1995) is a 318-V8-3/4 ton with two extra spring leaves in the rear. It seems many of the newer cargo vans are built more for ride than load-carrying ability. Gas mileage isn't bad, about 14-16 mpg in the city and 16-20 mpg on the road. Something to think about too; do your malls have 6'2" or lower entry portals? Many of ours here do, and my Dodge just clears them. I'm not sure if the newer Fords or GM's would, as they seem a bit taller.

Author: Jeffrey Owen (lockshop@ids.com)

My company runs three trucks, one Chevy full size ext.(big job truck) and two Astros (city and normal work). If I were to choose only one of them it would depend on how far I traveled to do "normal work" **TNI**



THE 2001 HONDA GOLD WING

PART 1



by
**John
Blankenship**



The newly redesigned **1** GL1800 Gold Wing has the biggest engine of any mass-produced motorcycle. With its 1832cc 4-cylinder engine, it also has all new locks and uses a new key blank.

Glove Box Lock



2

This view from the driver's seat shows three of the four locks. The ignition/steering lock is on top, the gas lid lock is on the bottom, and the glove box lock is on the right.



3

Turning the glove box lock clockwise opens the glove box as shown. This is the easiest lock to gain access to so you can originate a key. Begin by removing the trim strip just to the right of the black plastic lock mounting plate.

Continued on page 172

Continued from page 170



4 Grab the bottom of the trim strip and pull it out. Then wiggle it slightly from side to side and remove it as you work your way up until it is completely removed. It is easily snapped back on when replacing it.



6 Raise the right side of the mounting plate and pull it to the right. This will release the two tabs on the left side so you can raise it up. However, it is still attached to a cable that connects to the latch.



8 The code, 5703, is poorly stamped on this lock. It helps to use a magnifier because it is so small and hard to read. This motorcycle uses the 5001-8442 6-depth codes that have been used on Honda automobiles since 1988.

5 Use a 5mm hex key to remove the bolt on the upper right of the lock mounting plate. Then use a screwdriver to pry out a plastic clip on the lower right of the mounting plate.



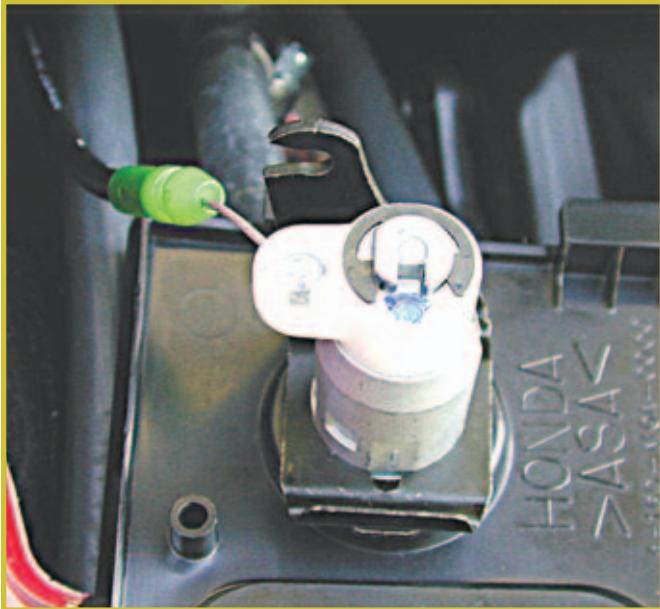
7 Turn the mounting plate upside down and look on the bottom of the lock for the code.



9 The original key is in the center. The X214 (HD103) on the left has been duplicated from the original. It works the gas, glove, and trunk locks but the grooves are not long enough to fully enter the ignition lock. No aftermarket blanks are available at this time, but I found that the Jet, Curtis and Ilco X180/B69 will work all of the locks. It is on the right and has been code cut with cuts of 66411131. The ignition lock prefers a laser cut key so I used a file to smooth all of the sharp edges so it would enter and exit smoothly. Also, the lands on the B-69 are narrower, so you cannot rest the lands on the top of the jaws when duplicating from an original key.



Continued from page 172



10

If you cannot read the code or if you need to rekey or repair the lock, you can easily disassemble it. Unsnap the end of the cable housing from the holder and move the cable around until it lines up with the slot in the tailpiece so you can pull it out. Then you can take it to a bench for disassembly.

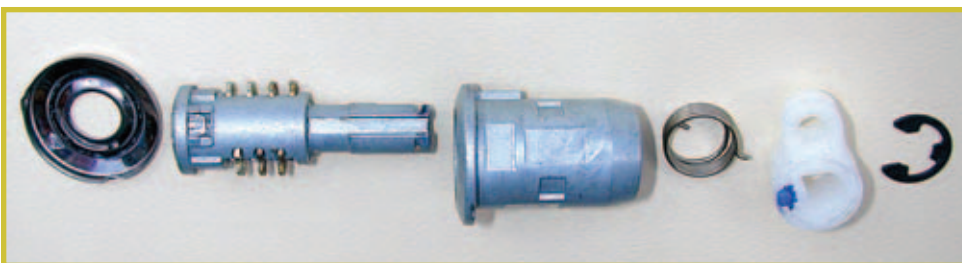


11

The lock is held on with a horseshoe clip. Remove it and the cable holder bracket will slip right off and the lock can be pushed out the front. Then remove the C-clip, tailpiece, and return spring from the back of the lock.

12

The facecap is easily removed and replaced since there are only three small crimps holding it on. Tap a small screwdriver behind the crimp as shown and then twist the screwdriver to force it outward. This has already been done to the crimp on the bottom. You do not need to uncrimp the third crimp, as the facecap will pivot down and off easily.



13

Be careful when pulling out the plug so the wafers do not fall out. The plug contains wafer tumblers in spaces 1-7. Spaces 1, 3, 5 & 7 are on top and 2, 4 & 6 are on the bottom.

14

The wafer tumblers are from left to right, 6641113, and are numbered accordingly. Code cut a key to fit and then all you have to do is progression space 8 in the ignition lock to complete the key. A search using key code software revealed that there are only three codes that use those cuts in the first 7 spaces, so the 8th space can only be a 1, 3, or 5 depth. If you are not using software, I checked the codes and there can be a 1 depth next to a 6 depth. Also, there are no 2 or 4 depths in the 8th space. These locks use ASP Keying Kit A-19-104, the same as for Honda automobiles using the 5501-8442 codes.



Continued from page 174

Gas Cap Lid



15

An alternate way to get the code is to pick the gas lid lock 90 degrees clockwise and open it. This lock has the same tumbler arrangement as the glove box lock so it is not easy to pick but I did manage to pick it open by alternately raking the top and bottom tumblers.



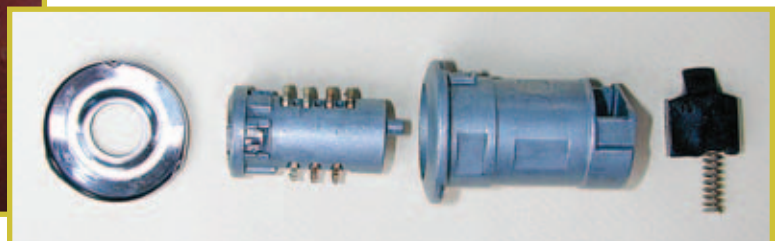
16

The lock is held on with a horseshoe clip and is easily removed. The code is on the bottom of the lock. The code number on the tag is not the key code.



17

The clip was removed and the lock was slid out and turned over to read the code number. This lock is well stamped and the code number is clearly 5703. The latch bolt needs to be retracted in order to remove the lock from the lid.



18

The facecap is removed the same way as the one on the glove box lock. Pulling the plug out releases the latch bolt and allows it to be removed along with the spring. There is a post in the cylinder that the spring fits over. The tumbler arrangement is the same as in the glove box lock.

Trunk Lock



19

The trunk lock is partially visible on the back of the trunk lid in the upper part of the photo. There is no code number on the trunk lock. Turn it 45 degrees clockwise to unlock it and 45 degrees counterclockwise to lock it. There are three levers on the bottom side of the trunk. When the trunk is unlocked, the wide center lever is pulled down from the front to open the trunk. The left lever opens the left saddlebag and the right lever opens the right saddlebag. The two helmet holders on the left and right are released by levers inside the trunk.

Continued on page 178

Continued from page 176



20

If you need to remove the trunk lock for repair, replacement, or rekeying, begin by removing the three screws on the back edge of the trunk that are visible after the trunk lid is opened.



21

Remove five screws inside the trunk that hold the latch mechanism cover on. There are three across the top and two on the bottom.



22

Once the five screws are removed you can remove the cover and expose the latch mechanism.



23

Remove four screws inside the trunk that secure the side trim. There are two on each side.



24

Once the four screws are removed, you can pull back the side trim pieces and unhook them from the rear trim.



25

Remove the two screws that secure the rear trim to the back of the trunk; there is one on each end. Then remove the rear trim piece.

Continued on page 180

Continued from page 178



26

Remove three screws that secure the bottom cover to the outside of the trunk. The one in the center is shown and there is also one on the left and right.



27

Remove four screws inside the trunk that secure the bottom cover. There are two on each side and they are just below the side trim screw holes.



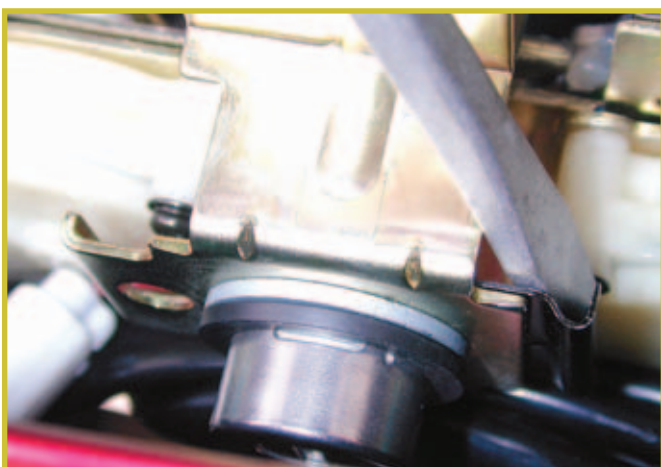
28

Now you can drop the bottom cover down and pull it off to the rear.



29

Use a 10mm socket to remove the two bolts from the bottom of the latch mechanism. There is one on each side of the three release levers.



30

A screwdriver is being used to remove the horseshoe clip that secures the trunk lock.



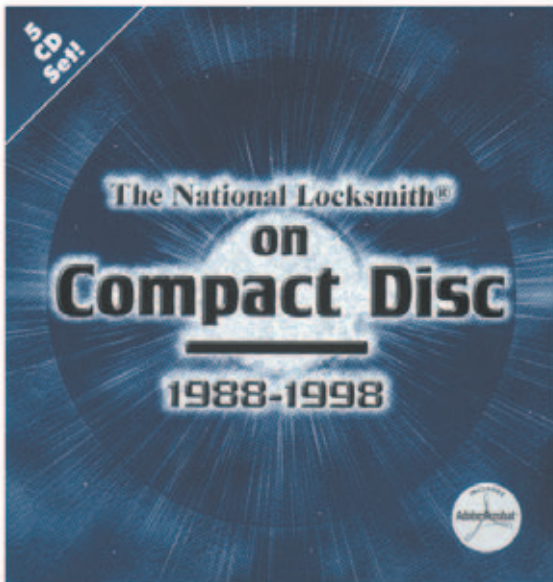
31

Move the latch mechanism forward and there is just enough room to remove the trunk lock. There is no code on this lock.

Continued on page 182

Continued from page 180

TNL on CD



Our Compact Disc set features 11 years of the locksmith's favorite magazine. Thousands upon thousands of pages of indexed and searchable text!

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32

Remove the C-clip, tailpiece, and return spring from the back of the lock.



33

Support the rim of the cylinder on the jaws of a vice but do not tighten the vice. Tap the back of the plug to remove the facecap and plug. Be ready to catch the plug so the wafers do not fall out.



34

The plug has the same tumbler arrangement as the glove box and gas lid locks. Notice that the gasket fits around the front of the cylinder rim where it contacts the rear wall of the trunk.



35

A remote control is included with the motorcycle when it is bought new. There is no alarm function associated with this control and there is no alarm system on the motorcycle. The top button locks the trunk, the left button unlocks the trunk, and the right button actually pops the trunk open. The bottom 'CALL' button causes the bike's horn to honk twice so you can find your motorcycle in a large parking lot. If you use the control to unlock the trunk and

do not open it or a saddlebag within 30 seconds, it will automatically relock.

Next month we complete the Goldwing service by covering the ignition/steering lock. **TNL**



THE CASH STATION

by Mark Daniel

Safe Manufactured by:
AMSEC

Safe Model #:
Square Door

UL Rating:
TL15

Safe Size:
40-1/2" W x 68-1/2" H x 26" D

Door Size:
38-1/4" W x 66-3/8" H x 1" Thick

Handle Type:
L Style

Handle Location:
36-3/8" Down x 7-3/8" Left of opening edge of door



AMSEC Square Door

Handle Rotation:

Counter-Clockwise to open

Dial Center to Handle Center:

8-5/8" on center

Dial Location:

27-1/2" Down x 7-3/8" Left of opening edge of door

Number of Door Locking Bolts:

5

Door Locking Bolt Locations:

7-1/4" - 20-1/4" - 33-1/4" - 46-1/4" - 59-1/4"
Down from top edge of door

Door Locking Bolt Diameter:

1"

Door Thickness to Bolt Center:

2-3/8"





AMSEC Square Door

Door Thickness to Lock Case:
1-7/8"

Door Thickness to Back of Lock:
3"

Combination Lock Type:
S & G 6700 Series

Combination Lock UL Rating:
Group 2

Combination Lock Description:
3 wheel, key change

Combination Lock Case Thickness:
1-1/8"

Number of Wheels:
3

Combination Lock Driver Location:
Rear

Combination Lock Handing:
Vertical Down (VD)

Combination Lock Drop-In Location:
73

Forbidden Zone:
0 - 20

Combination Lock Opening Procedures:
4xL to first number
3xR to second number
2xL to third number
1xR until dial stops.

Combination Lock Drill Point:
72 x 7/8"

Combination Lock Relock Trigger Type:
Lever style - activated when back cover is removed

Combination Lock Relock Trigger Drill Point:
7/8" Right of D/C & 1/2" Down

Combination Lock Changing Procedures:
1. Dial the existing combination to the changing index.
2. Insert the proper change key and turn it left 1/4 turn.
3. Dial the new combination to changing index.
4. Turn the change key right 1/4 turn and remove it.
5. Test the new combination at the opening index.

External Relock Device Type:
Twin spring loaded pins, released if lock is punched, or if back cover is removed

External Relock Device Drill Point:
3" Down x 1-5/8" left of dial center and 3" down x 2-3/8" left of dial center

TNL

KEY CODES

The HPC 1200CMB and
1200PCH code cards for
this code series are
between pages 34-37.

DOM 2H1 - 2H2088

Manufacturer: DOM

Code Series: 2H1 - 2H2088

Key Blanks:

Borkey: 1056

DL: DM64

Ilco: DM60

Ilco EZ:

Orion: DO23

Silca: DM17

Number of Cuts: 10

M.A.C.S.: 2

Key Gauged: Shoulder

Center of First Cut: .118

Cut to Cut Spacings: .079

Cut Depth Increments: .020

Notes:

Spacings: 1 - .118, 2 - .197,
3 - .276, 4 - .354, 5 - .433,
6 - .512, 7 - .591, 8 - .669,
9 - .748, 10 - .827

Depths: 1 = .272, 2 = .252,
3 = .232, 4 = .212

HPC 1200CMB

Code Card: C104

Jaw: A

Cutter: CW-1011

Gauge From: Shoulder

HPC 1200PCH (Punch):

PCH Card: P104

Punch: PCH-1011

Jaw: A

Silca UnoCode

Card Number: 231

HPC CodeMax

DSD #: 509

Jaw: A

Cutter: CW-1011

Curtis No. 15 Code Cutter:

Cam-Set: N/A

Carriage: N/A

Framon #2:

Cuts Start at: .118

Cut to Cut Spacing: .079

Block #: 3

Depth Increments: .020

Cutter: FC9045

Key Clamping Info:

A-1 Pack-A-Punch

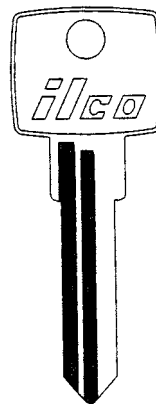
Quick Change Kit: N/A

Punch: N/A

Die: N/A

ITL 9000 & 950

Manufacturer ID: N/A



**DM60
DM17
DO23**

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2H0003 3333244233
2H0004 3333242133
2H0005 3333212442
2H0006 3333211224
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2H0009 3342333321
2H0010 3342332424
2H0011 3342331221
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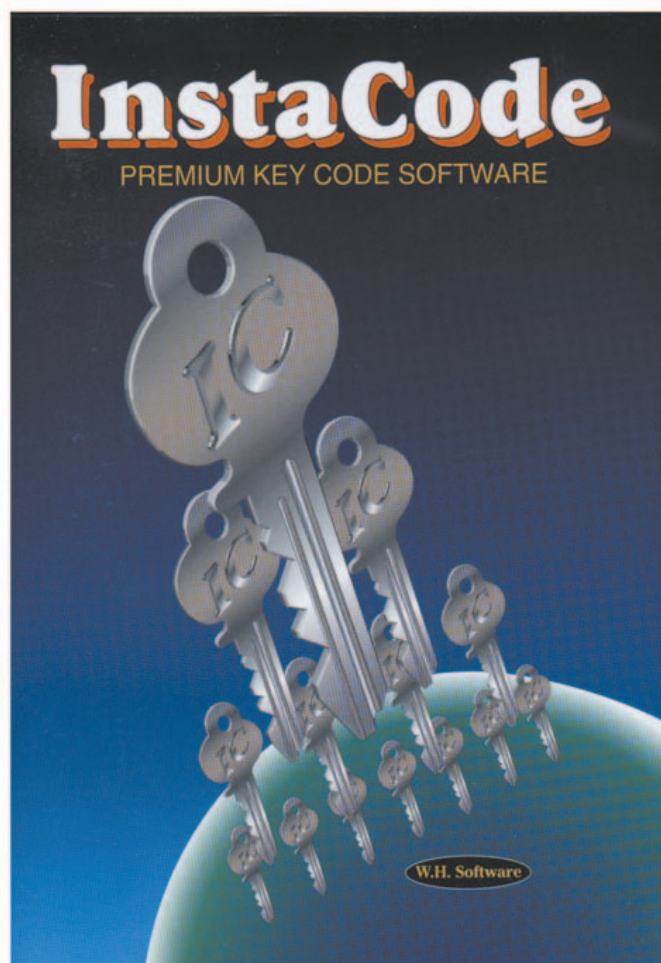
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DOM 2H1 - 2H2088

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2H0208	1224422442

InstaCode 2002



InstaCode 2002, the latest release of InstaCode, includes over 5000 code series covering general/utility, padlock, vehicle and motorcycles.

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#IC - 2002



DOM

2H1 - 2H2088

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#TIPS - 2



DOM 2H1 - 2H2088

2H0401	2121123333	2H0449	1221242433	2H0497	3321244212	2H0545	4224212121
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Ultimate Safe Opening Collection

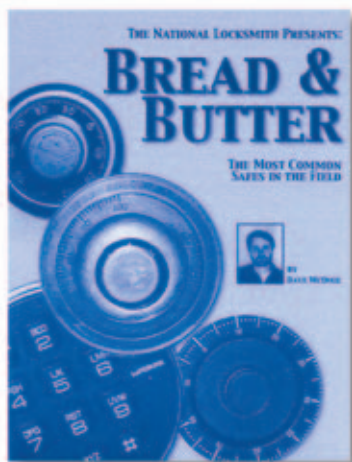
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#USOC - 1



Bread & Butter



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#BB - 01

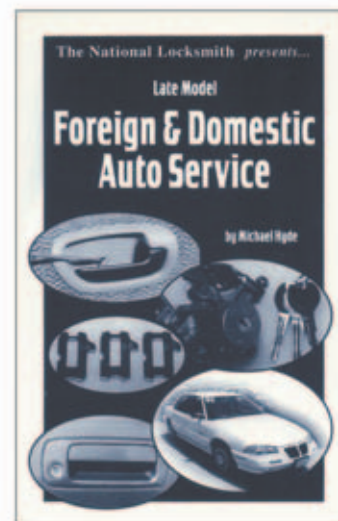
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2H0607	2133334233	2H0671	1224423333
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DOM 2H1 - 2H2088

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2H0784	4221211224	2H0848	2133123321

Foreign & Domestic Auto Service



This book represents the best work of Automotive Locksmithing guru Michael Hyde, author of the famous AutoSmart.

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#FDAS - 1

DOM 2H1 - 2H2088

2H0849 2133122424
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2H0851 2124334221
2H0852 2124332112
2H0853 2124423321
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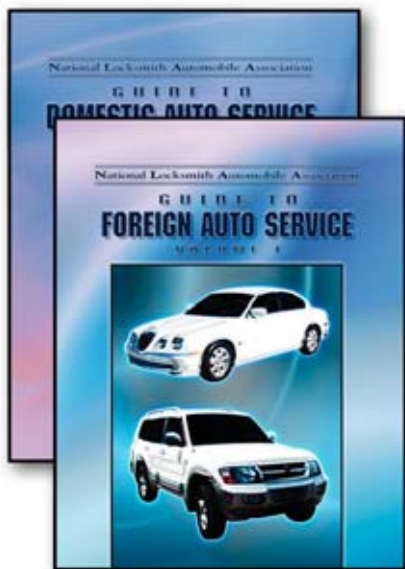
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NLAA Guide to Domestic Auto Service

NLAA Guide to Foreign Auto Service



You get car opening, lock removal and service, column service, key and code series information, and many views of the doors, panels and locks.

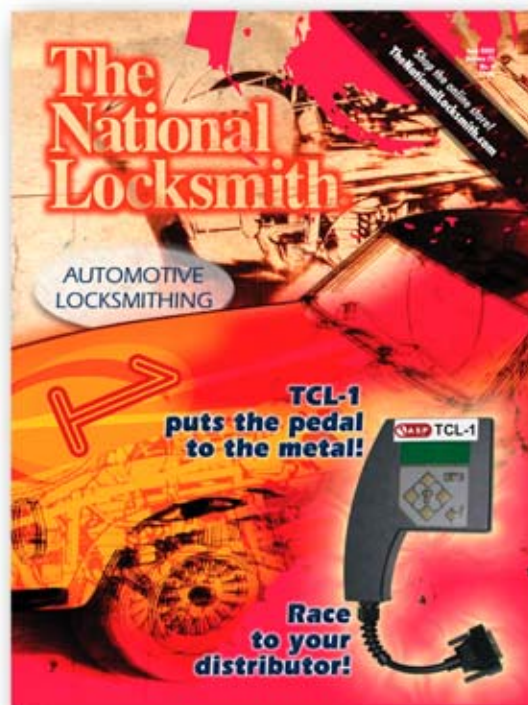
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DOM 2H1 - 2H2088

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TNL Subscriptions

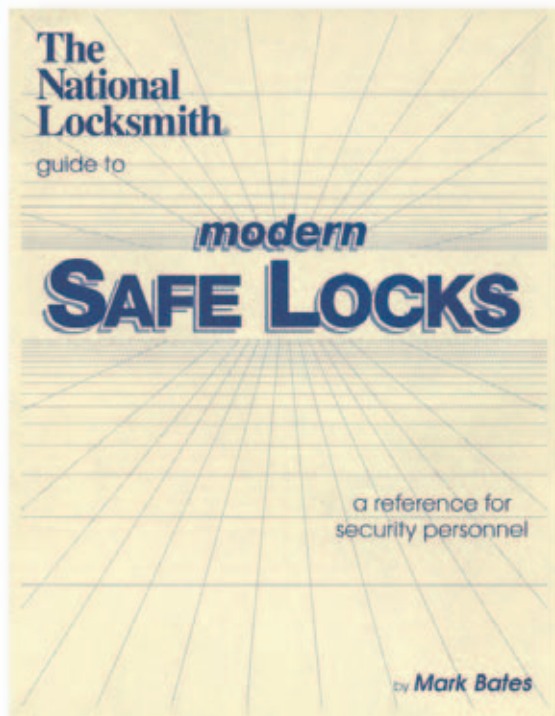


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#MSL - 1

DOM 2H1 - 2H2088

2H1077	2133242442	2H1141	1224212121
2H1078	2133213324	2H1142	1221333321
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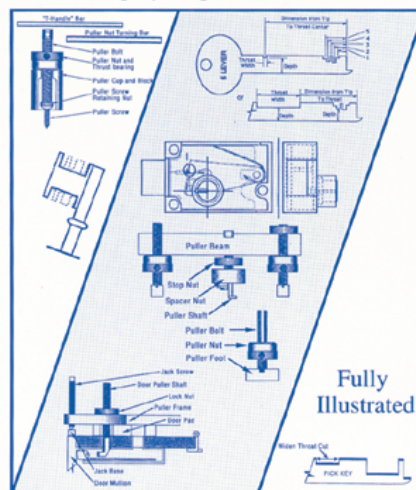
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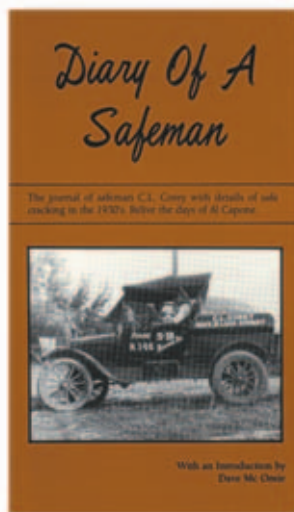
#SDBS - 1

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Diary Of A Safeman



This book is a
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private safe diary
of old time
safecracker C.L.
Corey.

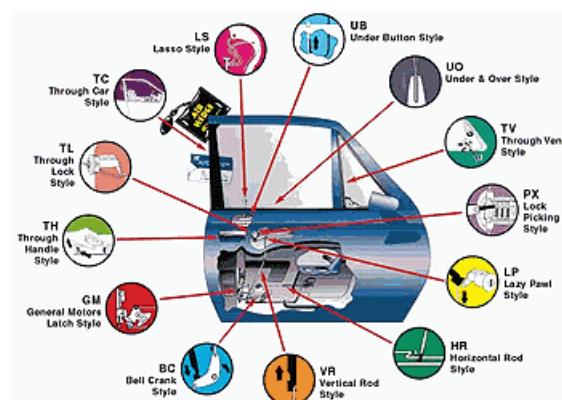
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#DIARY

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2H1522	2424421242	2H1586	1242334242
2H1523	2424244233	2H1587	1242332124
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2H1584	1233122433	2H1648	3324423312

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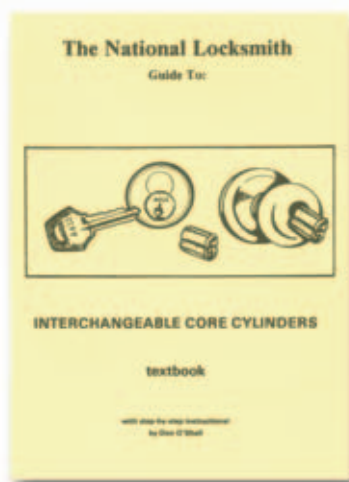


DOM

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2H1671	3312212421	2H1701	4224422442	2H1731	2433421242	2H1795	2121122424
2H1672	3312211212	2H1702	4224421224	2H1732	2433244233	2H1796	2112333321
2H1673	3312124221	2H1703	4224244242	2H1733	2433242133	2H1797	2112332424
2H1674	3312122112	2H1704	4224242124	2H1734	2433212433	2H1798	2112331221
2H1675	4233334221	2H1705	4224212442	2H1735	2433211242	2H1799	2112424224
2H1676	4233332112	2H1706	4224211224	2H1736	2433124233	2H1800	2112422121
2H1677	4233423321	2H1707	4221334224	2H1737	2433122133	2H1801	2112243324
2H1678	4233422424	2H1708	4221332121	2H1738	2442333342	2H1802	2112242442

Interchangeable Core Cylinders



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#ICB - 1

DOM

2H1 - 2H2088

2H1837	1224212421	2H1901	3312244224	2H1965	2433242421	2H2029	2112332442
2H1838	1224211212	2H1902	3312242121	2H1966	2433213312	2H2030	2112331224
2H1839	1221334212	2H1903	3312212424	2H1967	2433211233	2H2031	2112424242
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2H1841	1221243312	2H1905	3312124224	2H1969	2433122421	2H2033	2112243342
2H1842	1221242421	2H1906	3312122121	2H1970	2433121212	2H2034	2112242433
2H1843	1221213312	2H1907	4233334224	2H1971	2442334212	2H2035	2112213342
2H1844	1221211224	2H1908	4233332121	2H1972	2442331233	2H2036	2112212124
2H1845	1221124221	2H1909	4233423324	2H1973	2442423312	2H2037	2112124233
2H1846	1221121242	2H1910	4233422442	2H1974	2442422421	2H2038	2112122133
2H1847	1212334221	2H1911	4233421224	2H1975	2442421212	2H2039	1233334212
2H1848	1212332112	2H1912	4233244242	2H1976	2442244221	2H2040	1233331233
2H1849	1212423321	2H1913	4233242124	2H1977	2442242112	2H2041	1233423312
2H1850	1212422424	2H1914	4233212442	2H1978	2442212421	2H2042	1233422421
2H1851	1212421221	2H1915	4233211224	2H1979	2442211212	2H2043	1233421212
2H1852	1212244224	2H1916	4233124242	2H1980	2442124221	2H2044	1233244221
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2H1854	1212212424	2H1918	4242333324	2H1982	2424333312	2H2046	1233212421
2H1855	1212123324	2H1919	4242332442	2H1983	2424332421	2H2047	1233211212
2H1856	1212122442	2H1920	4242331224	2H1984	2424331212	2H2048	1233124221
2H1857	3333423342	2H1921	4242424242	2H1985	2424424221	2H2049	1233122112
2H1858	3333422433	2H1922	4242422124	2H1986	2424422112	2H2050	1242333312
2H1859	3333421242	2H1923	4242243342	2H1987	2424243321	2H2051	1242332421
2H1860	3333244242	2H1924	4242242433	2H1988	2424242424	2H2052	1242331212
2H1861	3333242124	2H1925	4242213342	2H1989	2424213321	2H2053	1242331213
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2H1878	3324334221	2H1942	4221242433	2H2006	2133242121	2H2070	1224211221
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2H1880	3324423321	2H1944	4221212124	2H2008	2133211221	2H2072	1221332112
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2H1884	3324242121	2H1948	4212334242	2H2012	2124332424	2H2076	1221211242
2H1885	3324212424	2H1949	4212332124	2H2013	2124331221	2H2077	1221124224
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2H1887	3321334221	2H1951	4212422433	2H2015	2124422121	2H2079	1212334224
2H1888	3321332112	2H1952	4212421242	2H2016	2124243324	2H2080	1212332121
2H1889	3321243321	2H1953	4212244233	2H2017	2124242442	2H2081	1212423324
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2H1893	3321123321	2H1957	4212124233	2H2021	2121332424	2H2085	1212242124
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2H1897	3312332112	2H1961	2433423333	2H2025	2121212424		
2H1898	3312423321	2H1962	2433424212	2H2026	2121123324		
2H1899	3312422424	2H1963	2433421233	2H2027	2121122442		
2H1900	3312421221	2H1964	2433243312	2H2028	2112333324		

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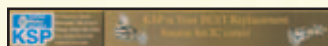
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WEB REVIEW

ShatterGard

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ShatterGard

Security Window Film



When you first log onto the ShatterGard site you see a cool video introduction to the product. ShatterGard is a security film, which is applied to glass surfaces.



The product can not only be applied in residential and commercial applications, but can also be used to toughen auto glass to protect against car-jackings and stereo theft. The locksmith dealer program supplies you with literature and information so you can sell the product to any of your existing or new customers.

The web site walks you through every bit of product information you need in order to get started. Rarely do we see a web site as complete as this one. Moreover, some locksmith readers of The National Locksmith have already made impressive profits selling ShatterGard.

You do not actually install the film. Instead, you simply set up the sale, and receive a hefty commission when a ShatterGard installer secures your client's glass. Thus, your time commitment is minimal when compared to your profit opportunities.



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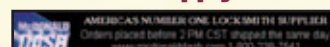
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TEST DRIVE!

Started in 1993, MCS Communications Systems is located in Quebec, Canada. They specialize in telephone entry systems, video intercom systems, emergency call systems, various types of intercom systems as well as access control systems.

PRODUCT: In their access control section, they have an interesting product called "t.REX." The t.REX provides a complete solution to exit detection and door surveillance for access control applications. Outstanding innovations such as X-Y Targeting(tm) and Digital Signal Processing (DSP) implementation has reportedly made the t.REX the fastest and most reliable exit detector on the market.

FEATURES: The t.REX is available in four models. The options on the models include a tamper switch, internal buzzer, timer and two relays. The detection pattern is completely adjustable. One adjustment allows for a horizontal detection, straight down detection or anything in between.

The second adjustment allows for a very precise left or right detection. A hand can be detected at up to 10 feet and a body at 20 feet. All of these adjustments allow the installer to cover a wide area or direct the beam to a very specific location, like a door knob.

The detection type is passive infrared. It has a total of seven jumpers used to enable or disable options. The most interesting is the "Fast jumper". The fast jumper changes the sensitivity of the detector. For exit detection it is recommended that the fast mode be used.



The t.REX will operate on anything from 12 to 28 VDC and only consumes 50 milliamps. When it is powered up, it goes through a power-up diagnostic sequence that takes about 40 seconds. If a problem is found, the led will flash red four times a second.

INSTALLATION PROCEDURE: The t.REX has two slotted mounting holes. The slots go in different directions to allow for leveling in the event your screws are not perfectly aligned. Two holes exit the rear of the t.REX so there is plenty of room for wiring. All wiring connections are made with screw down terminals while all feature options are selected with jumpers.


Personally, I prefer the jumpers to dip switches. More than once I have had a problem where a dip switch made a bad or marginal connection. You will never have that problem with a jumper.

It is recommended that the t.REX in not mounted directly above the handle or lever of the exit door. If it were, it could be possible to slip

something under the door to trigger an opening. Instead, place the t.REX on the hinge side of the door and direct the detection beam diagonally across the door to target the handle. This will prevent someone from tricking the device.

PRICE: The t.REX is only available through distributors. Depending on the model selected, the t.REX sells to locksmiths between \$56.00 and \$67.00.

CONCLUSION: The t.REX is well designed and very versatile. It can be used as a wide area exit detector or a finely focused exit detector. With the availability of a tamper switch, buzzer, relay contacts, lock control and relay timer jumpers, the t.REX should fill any exit detection need you have.

CONTACT INFO: For more information about the t.REX or other products contact: MCS Communications Systems, 3650-B Matte Boulevard, Brossard (Quebec) J4Y 2Z2. Phone: 800-MCS-1301 ext. 780; Fax: (450) 444-3718; E-mail: itod@mcscommunications.com 

IN SUMMARY:

DESCRIPTION: The t.REX provides exit detection and door surveillance for access control applications.

PRICE: \$56.00 - \$67.00 depending on model.

COMMENTS: One adjustment allows for horizontal, straight down detection or anything in between.

TEST DRIVE RESULTS: The t.REX should fill any exit detection need you have.